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Ficus-feeding psyllids (Homoptera), with special reference to the Homotomidae

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CONTENTS

Synopsis. The associations between *Ficus* and various groups of insects are briefly discussed. That between *Ficus* and the Psylloidea, particularly the family Homotomidae, is considered in more detail. It is concluded that, at the present level of our understanding of the phylogeny of *Ficus* and that of agaonine wasps, drosophilid flies, nymphalid butterflies and jumping plantlice, stepwise coevolution cannot be inferred in any of these associations.

The systematics of the psyllid family Homotomidae is reviewed. The family is diagnosed and considered as the sister-group of the Malvales-feeding family Carsidaridae. The 10 genera comprising the Homotomidae are diagnosed; a key is provided for their identification and a cladogram is offered, based on an analysis of 35 characters. Full synonymy and hostplant data, where known, are provided for the 72 nominal species recognised; where practical, keys to species are given. Two new genera and 15 new species are described; two family-group names, one genus-group name and one species-group name are synonymised.

INTRODUCTION

> 'The combination of botanical and entomological research has now put *Ficus* in the front rank of evolutionary and phylogenetic studies'
>
> E. J. H. Corner (1985*a*)

The Moraceae is a pantropical family of dicotyledonous angiosperms containing more than 1400 species in 53 genera. Most of the genera contain few species but the diverse genus *Ficus* includes more than half of the known moraceous species. The family is most closely related to the Urticaceae (Berg, 1977), and Thorne (1983) even regarded it as a subgroup of the latter.

There appears to be a consensus of opinion that the Moraceae is of Gondwanan origin. Raven & Axelrod (1974: 592) considered the family old enough for direct dispersal between Africa and South America, and Gentry (1982: 569) classed it as a Gondwanan element. However, there seems to be considerable argument concerning the palaeogeographical origin of the genus *Ficus*. Croizat (1968) argued for an early evolution in Gondwana, while Corner (1985*b*) forcefully maintained his long-held theory of a Laurasian ancestry for the genus. Whatever the merits of these arguments there is agreement that the present-day *Ficus*, with its closed inflorescence or syconium, arose from an ancestor with an open inflorescence in the mid Cretaceous Period, about 100 million years ago (Galil, 1977; Murray, 1985; Bouček, 1988).

The symbiotic association between *Ficus* (figs) and their fig wasp pollinators (Agaoninae) is well-documented (Wiebes, 1979; 1986 for reviews), and Jermy (1984) suggested that this association may be one of the very few true examples of coevolution between plants and insects. Pollinating fig wasps are species-specific to their fig hosts and there is a reasonable correlation between fig wasp generic or species-group classification and the subsections and series classification (Corner, 1965) of *Ficus*. In fact Ramirez (1977, 1980) suggested modifications to Corner's arrangement of *Ficus* species, based on the specificity and morphology of their pollinating wasps. Wiebes (1982) further compared classifications of Agaoninae and *Ficus* (from Ramirez, 1980) and concluded that there is no correlation, at a higher level than that noted above, between the two classifications. Corner (1985a) reviewed the modifications suggested by Ramirez and Wiebes but rejected them, for the large part, in favour of his original classification. Miller (1987) briefly reviewed the case and considered that more rigorous cladograms were required for both groups of organisms before stepwise coevolution could be inferred.

Hill (1967) listed a further 46 genera of non-agaonine (i.e. non-pollinators sensu Bouček, 1988) fig wasps, known to be associated with fig syconia, in other subfamilies of the Agaonidae and the families Eurytomidae, Ormyridae, Eulophidae and Pteromalidae. The roles played by these wasps appear to be varied but have been little studied. Some are phytophagous, others are hyperparasites, and there is some degree of fig specificity.

Lachaise et al. (1982) reported on the association between fig syconia and two groups of drosophilid flies, *Lissocephala* and the *Drosophila fima* species-group, in Africa. *Lissocephala* larvae develop during the floral period of the syconium and each species of fig studied harboured a particular combination of *Lissocephala* species; different species of figs possibly having some *Lissocephala* species in common. *Drosophila fima* species-group larvae develop in the postsexual phase of the syconium and there appeared to be no fig species preference in this group. Lachaise et al. (1982) postulated that the speciation of *Lissocephala* was a by-product of the coevolution of figs and their pollinating wasps.

Apart from those insects associated with fig syconia there are other groups of insects known to feed on *Ficus* species. Two such groups worthy of mention are the larvae of nymphalid butterflies, and the jumping plantlice or Psylloidea (Homoptera). Ackery (1988 and pers. comm.) has reviewed the hostplants of nymphalid larvae and recognised some Moraceae-feeding 'themes': Marpesiine larvae have specialised on Moraceae genera, including *Ficus*; the Limenitine genus *Pseudoneptis* feeds on *Antiaris* and *Ficus*; and the genus *Euploea* (Danainae) shows a trend towards *Ficus*-feeding but plants in the families Apocynaceae, Rubiaceae, Ulmaceae, Flacourtiaceae, and Convolvulaceae are also known hosts.

The Psylloidea (jumping plantlice) comprise a group of small, phloem-feeding sternorrhynchous bugs. Individual psyllid species show a high degree of hostplant specificity, particularly during the larval stages, and related species tend to develop on related species or groups of dicotyledonous angiosperms. Several groups of psyllids are known to utilise moraceous hostplants and one family in particular, the Homotomidae, is almost exclusively *Ficus*-feeding.

The objectives of this paper are to review the known data on Moraceae-feeding in the Psylloidea; to postulate a phylogeny for the genera of the family Homotomidae, for future comparison with a cladogram of the subgroups of *Ficus*, should this ever be produced; and to review the taxonomy of the species in the family.

MATERIAL, METHODS AND TERMINOLOGY

Most of the material studied is deposited in the British Museum (Natural History) (BMNH), with supplementary specimens from the Bernice P. Bishop Museum, Honolulu (BPBM); Muséum d'Histoire Naturelle, Geneva (MHNG); Muséum National d'Histoire Naturelle, Paris (MNHN);

Musée Royal de l'Afrique Centrale, Tervuren (MRAC); Stanford University Natural History Museum, California (SUNHM); and the National Museum of Natural History, Washington (USNM). Type material is deposited in BMNH; BPBM; MHNG; MNHN; MRAC; SUNHM; USNM; Australian National Insect Collection, Canberra (ANIC); Beijing Agricultural University Insect Collection, China (BAUIC); Entomological Institute, Hokkaido University, Sapporo (EIHU); Forest Research Institute, Dehra Dun, India (FRI); Institut für Pflanzenschutzforschung, Eberswalde (IPE); Instytut Zoologiczny, Polish Academy of Sciences, Warsaw (IZPAN); National Chung Hsing University, Taiwan (NCHU); National Collection of Insects, Plant Protection Research Institute, Pretoria (NCI); and the Zoological Survey of India, Calcutta (ZSI).

All measurements are quoted in millimetres; most were taken from slide-mounted material but overall size was taken from the anterior margin of the head to the tip of the forewing of dry-mounted material in lateral view. Other reference points from which measurements of various structures were taken are given in Hollis (1976, 1984).

Apart from the head illustrations, all figures were drawn from slide-mounted material. The inner surface of the right paramere is shown. Structural terminology follows Vondráček (1957) and Hollis (1984, 1987).

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MORACEAE-FEEDING PSYLLIDS

Table 1 summarises the available data on psyllid genera associated with moraceous hosts. The genus *Paurocephala* has 25 species in the Old World tropics, with free-living larvae. There is one species on *Artocarpus*, one on *Morus* and three on *Ficus*. Most of the other species live on hosts in the Malvales (Tiliaceae, Malvaceae and Sterculiaceae) but there are a few species on Clusiaceae (Theales) and Connariaceae (Rutales). The South American species are on Melastomaceae but these are probably not congeneric with the Old World species. The genus is most closely related to *Haplaphalara* and *Diclidophlebia* which also have hosts in the Malvales.

Phytolyma is an African genus of four species (Hollis, 1973), three on *Milicia* and one on *Morus*. The larvae are gall-forming on leaves and petioles. Its relationships are not clear but White & Hodkinson (1985) placed the genus as the sister-group of the rest of the Aphalarinae.

Anomoneura is a monobasic Asian Palaearctic genus living on *Morus*; it may be related to the legume-feeding genus *Epipsylla* (White & Hodkinson, 1985).

The triozid genus *Pauropsylla* has 22 species in the Old World tropics and subtropics and all confirmed hosts are *Ficus* spp. The larvae usually form pit galls on the host leaves. *Ceropsylla fulvida* is an Indian species recorded by Mathur (1975) on *Ficus microcarpa* [as *macrocarpa*] and *F. rumphii*. The species is not congeneric with American *Ceropsylla* which are found on *Ocotea* (*Lauraceae*) and *Sideroxylon* (Ebenaceae). *Trioza* is a large and probably paraphyletic genus of some 600 species (Hollis, 1984). Three species are known to occur on *Ficus* species. *T. buxtoni* is a Middle Eastern species on *F. carica* and the larvae cause severe leaf distortion; *T. ficicola* is a South African species on *Ficus* sp.; *T. brevigena* occurs on *Ficus* sp. in N. India and its larvae cause leaf-margin rolls.

The homotomid genus *Triozamia* is an interesting example of the degree to which psyllids are host specific (Hollis, 1984). The three known species appear to maintain separate identities on the three recognised African varieties of *Antiaris toxicaria welwitschii* (cf. Berg, 1978), i.e. *T. lamborni* on var. *africana*, *T. vondraceki* on var. *welwitschii* and *T. usambarensis* on var. *usambarensis*.

Table 2 summarises the available data on psyllids having *Ficus* spp. as hostplants. Using Corner's (1965) infrageneric arrangement of *Ficus* some patterns can be discerned. *Pauropsylla* occurs mainly on subgenus *Sycomorus*, with a few species on section *Sycidium* of subgenus *Ficus*. The original records of *P. ficicola* and *P. globuli* on *Ficus hookeriana* (Kieffer, 1905; as *F. hookeri*) are regarded as dubious; *P. ficicola* adults and larvae have been collected recently from *F. auriculata* in N. India (BMNH data). *Paurocephala* species are restricted to subgenus *Ficus*.

Homotomid species occur mainly on the strangler and banyan subgenus *Urostigma*, with a few species on subgenus *Ficus* and one genus, *Dynopsylla*, whose larvae are gall-forming, on *F. nervosa* of subgenus *Pharmacosycea*. Of the groups that

Table 1 Genera of Moraceae exploited as hostplants by genera of Psylloidea.

Genera of Moraceae	Genera of Psylloidea						
	Psyllidae			Triozidae	Homotomidae		
	Paurocephalinae	Aphalarinae	Anomoneurinae		Dynopsyllinae	Macrohomotominae	Homotominae
Antiaris					*Triozamia*		
Artocarpus	*Paurocephala*						
Ficus	*Paurocephala*			*Pauropsylla* *Ceropsylla* *Trioza*	*?Diceraopsylla* *Dynopsylla*	*Mycopsylla* *Macrohomotoma* *Pseudoeriopsylla*	*Synoza* *Homotoma*
Milicia (= African *Chlorophora*)		*Phytolyma*					
Morus	*Paurocephala*	*Phytolyma*	*Anomoneura*				

occur on subgenus *Urostigma*, the African genus *Pseudoeriopsylla* is restricted to section *Galoglychia* while its sister-group, the Oriental genus *Macrohomotoma*, is on section *Conosycea*. *Mycopsylla* is less restricted with the Australasian species on section *Malvanthera* and the Indian species recorded from sections *Urostigma* and *Conosycea*. *Homotoma* species have an even broader spectrum of *Ficus* hosts in sections *Urostigma*, *Conosycea* and *Galoglychia* of subgenus *Urostigma*, and sections *Ficus* and *Rhizocladus* of subgenus *Ficus*. The record of *Diceraopsylla* on *Ficus elastica* (subgenus *Urostigma*, section *Stilpnophyllum*) is doubtful (see p. 142).

Corner's infrageneric conspectus of *Ficus* is, to some extent, based on plesiomorphies and does not indicate phylogenetic relationships (Wiebes, 1979). Ramirez (1980: fig. 1) produced a 'cladogram' for *Ficus*, based on 'fifty-four morphological characters and a few physiological characters'. Unfortunately, few of these characters were discussed and the resulting branching diagram cannot be assessed critically. However, Table 3 shows a slightly modified version of Ramirez' cladogram of *Ficus* sections, and the homotomid genera that are associated with these sections. Clearly stepwise coevolution cannot be inferred from these data.

The cladogram of homotomid genera (Fig. 1) is presented so that, when a more rigorous phylogeny of *Ficus* is produced and more reliable hostplant data for the psyllids are gathered, the case may be reconsidered.

HOMOTOMIDAE Heslop-Harrison

Homotomini Heslop-Harrison, 1958: 578; Loginova, 1964*b*: 54. Type genus: *Homotoma* Guérin-Méneville.
Homotominae Heslop-Harrison; Klimaszewski, 1964: 91; Bekker-Migdisova, 1973: 101.
Homotomidae Heslop-Harrison; White & Hodkinson, 1985: 272; Hollis, 1987: 90. Brown & Hodkinson, 1988: 179.
Carsidarinae Crawford; Yang, 1984: 168, in part.

Diagnosis. A pair of strong tubercles present on metapostnotum; ventral sense organs of hind femur in basal position, proximal organ offset from distal pair; ♂ proctiger bipartite (not in *Synoza*); ♂ subgenital plate without laterodorsal appendages; *rs–m* crossvein absent from forewing.

Hostplants. Moraceae (*Antiaris* and *Ficus*).

Discussion. As diagnosed here the family contains the following genera: *Diceraopsylla, Dynopsylla, Austrodynopsylla, Triozamia, Afrodynopsylla, Mycopsylla, Macrohomotoma, Pseudoeriopsylla, Synoza* and *Homotoma. Diceraopsylla* is reassigned from the Aphalaridae, and *Triozamia* is transferred from the Triozidae. *Austrodynopsylla* and *Afrodynopsylla* are described as new below.

The group was erected by Heslop-Harrison as a tribe of his polyphyletic subfamily Ciriacreminae, to contain the genera *Homotoma, Psausia, Labobrachia, Metapsausia, Mycopsylla, Sphingocladia, Synoza, Crawfordella* and *Dynopsylla*. He placed *Macrohomotoma* in the Phacopteronini and *Diceraopsylla* in the Carsidarini. Of these original genera *Psausia* was synonymised with *Homotoma* by Kuwayama (1931); *Labobrachia* and *Metapsausia* were inferred as synonyms of *Homotoma* by Miyatake (1975); *Sphingocladia* and *Crawfordella* have been, most recently, synonymised with *Dynopsylla* by Crawford (1924) and Yang (1984) respectively. *Macrohomotoma* and *Diceraopsylla* were transferred to the Homotominae by Bekker-Migdisova (1973) and *Diceraopsylla* was erroneously transferred to the Aphalaridae by Hollis (1984).

Loginova (1964*b*) and Klimaszewski (1964) both noted the polyphyletic nature of Heslop-Harrison's Ciriacreminae and regarded homotomids as a subgroup of the Carsidaridae, as did Bekker-Migdisova (1973) but her concept of the latter included several non-carsidarid groups (White & Hodkinson, 1985; Hollis, 1987). White & Hodkinson (1985) regarded homotomids as a distinct family containing the genera *Homotoma, Synoza, Mycopsylla, Macrohomotoma, Pseudoeriopsylla*, and probably *Dynopsylla* and *Sphingocladia*. They diagnosed the group on the following 'derived' characters (White & Hodkinson, 1985: 239, clade 6).

1. Adult antenna with rhinaria absent from segments 3, 5 and 7.
2. Larva with dorsal surface of thorax with distinct sclerites.
3. Larva broader than long.
4. Antenna of larva short, narrowed evenly to apex.

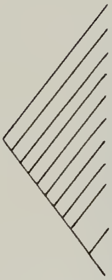
However, for a number of reasons this diagnosis is not valid. Character 1 does not occur in many members of the Dynopsyllinae, but is a widespread condition in the Psylloidea; character 2 is a primitive condition, occurring in other families; character 3 does not occur in *Synoza* or in

Table 2 Species of *Ficus* (arranged after Corner, 1965) utilised as hostplants by species of Psylloidea. * and § are the same records.

Ficus infrageneric groups (after Corner, 1965)						Psylloidea species
Subgenus	Section	Subsection	Series	Subseries	Species	
Urostigma	*Urostigma*		*Religiosae*		*religiosa*	*Mycopsylla mathuriana, M. gardenensis, Homotoma distincta*
					? tsjahela (as *infectoria*)	*Mycopsylla gardenensis*, Homotoma indica*§
			Superbae		*superba*	*Homotoma radiata*
			Caulobotryae		*? virens* (as *infectoria*)	*Mycopsylla gardenensis*, Homotoma indica*§
			Orthoneurae		*? hookeriana*	*Pauropsylla ficicola, P. globuli*
	Leucogyne				*rumphii*	"*Ceropsylla*" *fulvida*
	Conosycea	*Conosycea*	*Drupaceae*	*Indicae*	*mollis* (as *tomentosa*)	*Mycopsylla gardenensis*
					benghalensis	*Macrohomotoma gladiata*
					altissima	*Homotoma altissimae*
				Crassirameae	*crassiramea* (as *clementis*)	*Macrohomotoma williamsi*
		Benjamina	*Benjamineae*		*benjamina*	*Homotoma benjaminae, H. bakeri, Macrohomotoma robusta*
			Callophylleae		*microcarpa* (some as *retusa*)	*Mycopsylla gardenensis, Macrohomotoma gladiata, M. geniculata, M. sinica, M. striata, Homotoma indica,* "*Ceropsylla*" *fulvida*
	Stilpnophyllum				*elastica?*	*Diceraopsylla brunettii*
	Malvanthera		*Malvanthereae*	*Malvanthereae*	*macrophylla*	*Mycopsylla fici*
				Platypodeae	*rubiginosa*	*Mycopsylla proxima*
					obliqua	*Mycopsylla obliqua*
	Galoglychia	*Chlamydodorae*			*thonningii*	*Pseudoeriopsylla nyasae, P. laingi, Homotoma angolensis, H. chlamydodora, Pauropsylla proxima*
					natalensis	*Pseudoeriopsylla laingi, Homotoma chlamydodora*
		Caulocarpae			*ovata* (as *brachypoda*)	*Pseudoeriopsylla carvalhoi*

Pharmacosycea	*Oreosycea*		*Nervosae*		*nervosa*	*Dynopsylla cornuta, D. grandis, D. pinnativena*
Ficus	*Ficus*	*Ficus*	*Caricae*		*carica*	*Homotoma ficus, H. viridis, Trioza buxtoni*
			Podosyceae	*Podosyceae*	*pyriformis*	*Homotoma pyriformiscola*
					erecta	*Homotoma maculata, H. radiata, Paurocephala conchaiensis*
	Rhizocladus		*Plagiostigmaticae*	*Plagiostigmaticae*	*sarmentosa* (as *foveolata*)	*Homotoma wulinensis, Paurocephala conchaiensis*
					pumila (some as *stipulata*)	*Paurocephala conchaiensis, P. pumilae*
	Sycidium	*Sycidium*	*Pungentes*		*minahassae*	*Paurocephala psylloptera*
			Phaeopsilosae		*gul*	*Paurocephala psylloptera*
			Scabrae		*ulmifolia*	*Paurocephala psylloptera, Pauropsylla deflexa, P. triozoptera* (Philippines)
					odorata	*Paurocephala psylloptera*
		Varinga	*Exasperatae*		*exasperata*	*Paurocephala psylloptera* (Ceylon)
		Palaeomorpha	*Pallidae*		*tinctoria* (as *gibbosa*)	*Pauropsylla triozoptera* (Taiwan)
	Sycocarpus	*Sycocarpus*	*Tuberculifasciculatae*	*Congestae*	*nota*	*Paurocephala psylloptera*
				Hispidae	*hispida*	*Paurocephala conchaiensis, P. psylloptera*
				Tuberculifasciculatae	*fistulosa* (as *repandifolia*)	*Paurocephala psylloptera*
Sycomorus	*Sycomorus*				*sycomorus* (some as *gnaphalocarpa*)	*Pauropsylla willcocksi*
					sur (some as *capensis*)	*Pauropsylla trichaeta*
					racemosa	*Pauropsylla depressa, P. purpurescens*
	Neomorphae		*Auriculatae*		*auriculata* (as *roxburghii*)	*Pauropsylla ficicola*
			Variegatae	*Variegatae*	*variegata*	*Pauropsylla udei*
Ficus spp. indet.						*Austrodynopsylla encala, Mycopsylla kina, Macrohomotoma hylocola, M. magna, M. minana, M. striata, M. viridis, M. yunnana, Pseudoeriopsylla kenyae, P. etiennei, Homotoma galbvittata, H. ruiliana, H. xishuangana, H. yunnanica, H. bilineata, Synoza cornutiventris, S. floccosa*

Table 3 Relationships between subfamilies and genera of Homotomidae and Sections of *Ficus* (arranged according to Ramirez, 1980) and other moraceous hosts.

Hosts	Homotomidae		
	Dynopsyllinae	Macrochomotominae	Homotominae
Ficus sections 			
Urostigma		*Mycopsylla*	*Homotoma*
Leucogyne			
Stilpnophyllum	? *Diceraopsylla*		
Americana			
Conosycea		*Mycopsylla, Macrochomotoma*	*Homotoma*
Galoglychia		*Pseudoeriopsylla*	*Homotoma*
Malvanthera		*Mycopsylla*	
Oreosycea	*Dynopsylla*		
Pharmacosycea			
Ficus			*Homotoma*
Sycomorus			
(After Ramirez, 1980)			
Ficus spp. (group unknown)	*Austrodynopsylla* (1 sp.)	*Mycopsylla* (1 sp.) *Macrochomotoma* (6 spp.) *Pseuderiopsylla* (3 spp.)	*Homotoma* (4 spp.) *Synoza* (2 spp.)
Antiaris toxicaria	*Triozamia*		
Host unknown	*Afrodynospylla* (1 sp.)	*Mycopsylla* (3 spp.) *Macrochotoma* (3 spp.)	*Homotoma* (13 spp.) *Synoza* (1 sp.)

several *Homotoma* species; character 4 does not occur in *Synoza* and *Macrohomotoma*.

White & Hodkinson also proposed a sister-group relationship between the Homotomidae and the Phacopteronidae but this was opposed by Hollis (1987) in favour of a sister-group pairing of the Carsidaridae + Homotomidae. Hollis used the following autapomorphies of the adults to diagnose this group.

1. Presence of a pair of large tubercles on the metapostnotum.
2. All three ventral sense organs of the hind femur in a basal position, with the most proximal organ offset from the distal pair.

The two families may be separated as follows:

1 Male subgenital plate with a pair of dorsolateral appendages; male proctiger unipartite; non-tracheate *rs–m* crossvein present in forewing **Carsidaridae**

– Male subgenital plate without dorsolateral appendages; male proctiger bipartite (except *Synoza*); *rs–m* crossvein absent .... **Homotomidae**

The supraspecific treatment of the family given below is outlined in the following sequenced classification and the phylogeny is summarised in Fig. 1.

Family Homotomidae
  Subfamily Dynopsyllinae (*sedis mutabilis*)
    Tribe Diceraopsyllini
      Genus *Diceraopsylla*
    Tribe Dynopsyllini
      Subtribe Dynopsyllina
        Genus *Dynopsylla*
        Genus *Austrodynopsylla*
      Subtribe Triozamiina
        Genus *Triozamia*
        Genus *Afrodynopsylla*
  Subfamily Macrohomotominae (*sedis mutabilis*)
    Tribe Edenini
      Genus *Mycopsylla*
    Tribe Macrohomotomini
      Genus *Macrohomotoma*
      Genus *Pseudoeriopsylla*
  Subfamily Homotominae (*sedis mutabilis*)
    Tribe Homotomini
      Genus *Homotoma*
    Tribe Synozini
      Genus *Synoza*

The three subfamilies are placed *sedis mutabilis* (sensu Wiley, 1981: 211) above, and as a trifurcation in Fig. 1 because, although each can be independently diagnosed, no pair can be diagnosed as sister-groups.

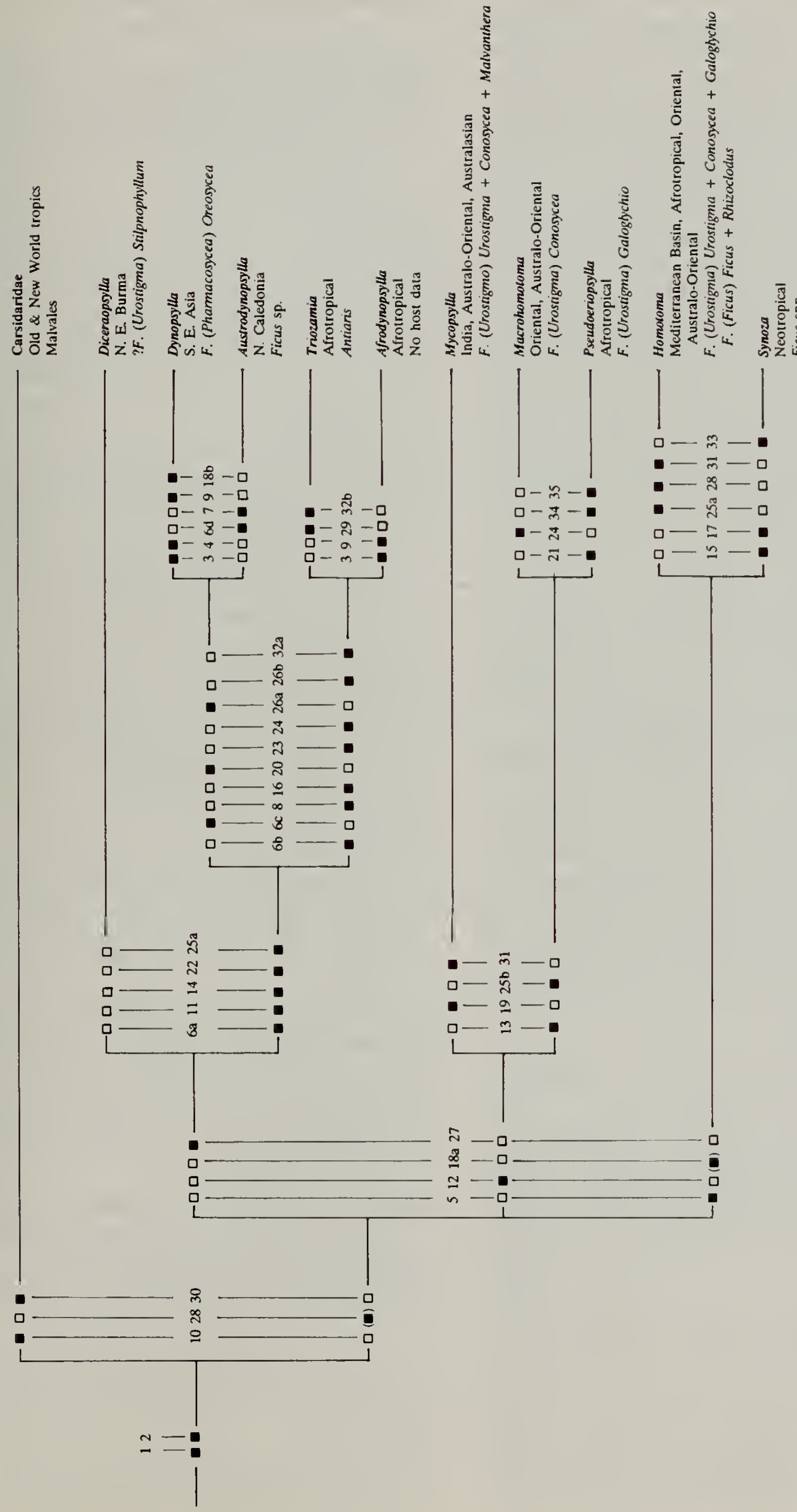


Fig. 1 Proposed cladogram for homotomid genera, with summary of hostplant and distribution data. ( ) denotes character not shared by all members of clade. ■ derived, □ primitive condition. For characters relating to numbers see p. 140.

A major problem in the proposed phylogeny is the position of the genus *Synoza*, as it does not have a bipartite male proctiger, the one positive gain character that diagnoses the Homotomidae within the Homotomidae + Carsidaridae. An alternative to the phylogeny proposed in Fig. 1 is to place *Synoza* as the sister-group to the rest of the Homotomidae. To do this one needs to postulate convergence of antennal and forewing characters in Homotomini and Synozini, a less parsimonious hypothesis than postulating that the unipartite male proctiger of *Synoza* is a reversal.

The characters from which Fig. 1 was derived are as follows (primitive condition in parenthesis).

1. Pair of large tubercles present on metapostnotum (absent)
2. Ventral sense organs of hind femur in basal position, with the most proximal organ offset from distal pair (all three ventral sense organs of hind femur in medial position)
3. Anterolateral tubercles of vertex present (absent)
4. Vertex deeply divided by medial suture anteriorly (not deeply divided anteriorly)
5. Antennal flagellum thickened and densely hirsute (narrow, filiform, sparsely haired)

6a. Rhinaria present on 1st flagellomere (rhinaria absent from 1st flagellomere)
6b. Rhinaria basal on 1st flagellomere (rhinaria absent)
6c. Rhinaria apical on 1st flagellomere (rhinaria absent)
6d. A group of rhinaria present apically on 1st flagellomere (single rhinarium present)

7. A group of rhinaria present on 2nd flagellomere (single rhinarium subapically on 2nd flagellomere)
8. Rhinaria absent from 2nd flagellomere (single rhinarium subapically on 2nd flagellomere)
9. Antennal scape elongate (scape not elongate)
10. Non-tracheate *rs–m* crossvein present in forewing (*rs–m* crossvein absent)
11. Costal break absent (costal break present)
12. Modified pterostigma present (pterostigma absent)
13. Pterostigma ovoid (pterostigma wedge-shaped)
14. Radular areas narrow and defined (radular areas diffuse)
15. Radular area absent from m_2 (radular area present in m_2)
16. *M+Cu* stem absent or very short (*M+Cu* present)
17. *M+Cu* completely fused with *R+M+Cu* stem (*M+Cu* separate)

18a. *M* stem, distal to branching with *Cu* stem, in contact with or partly fused with *Rs* (*M* stem entirely separate)
18b. Basal part of *M* stem in contact or fused with *Rs* (*M* stem entirely separate)

19. M_{1+2} reaching wing margin anteriorly to apex of wing (M_{1+2} reaching wing margin posteriorly to apex of wing)
20. *Cu* stem absent or very short (*Cu* stem present)
21. *Cu* stem much shorter than *M+Cu* stem (*Cu* stem about as long as *M+Cu* stem)
22. *Cu* of hindwing unbranched (*Cu* of hindwing branched)
23. *M+Cu* stem of hindwing indistinct or very short (*M+Cu* stem of hindwing clearly present)
24. Basal spine of hind tibia absent (present)

25a. Apical spurs of hind tibia grouped or few in number (apical spurs forming an almost complete ring)
25b. Outer apical spurs of hind tibia absent (a single outer apical spur present)
26a. Hind basitarsus with a single apical spur (hind basitarsus with 2 apical spurs)
26b. Hind basitarsus without apical spurs (single apical spur present)

27. Abdomen with wax-producing cells present on posterior tergites of adult (abdominal wax-producing cells absent)
28. Male proctiger bipartite (male proctiger unipartite)
29. Lateral lobes of male proctiger each with an inner apical lobe (lateral lobes without inner apical lobes)
30. Male subgenital plate with dorsolateral appendages (dorsolateral appendages absent)
31. Basal segment of aedeagus swollen apically (not swollen)

32a. Apical segment of aedeagus subdivided (not subdivided)
32b. Apical subdivision of apical segment of aedeagus long, narrow (apical subdivision short, swollen)

33. Apical subdivision of apical segment of aedeagus with ventral spiniform processes (spiniform processes absent)
34. Larva with anus and associated wax pores dorsal (anus and wax pores ventral)
35. Larva with antennal flagellum not subdivided into flagellomeres (antennal flagellum divided into flagellomeres)

Key to genera

1 Adult abdomen with groups of wax-producing cells present laterally on posterior tergites (Fig. 46) . . 2

– Wax-producing cells absent from abdominal tergites 6

2 Costal break present in forewing, radular areas diffuse (Fig. 47); hind tibia with a complete crown of apical spurs (Fig. 45), hind basitarsus with 2 apical spurs; rhinaria absent from 1st flagellomere; *Cu* of hindwing branched (Fig. 48) (Diceraopsyllini) ***DICERAOPSYLLA***

– Costal break absent, radular areas narrow and defined (Figs 49, 51, 53, 55); hind tibia with apical spurs arranged 0 (or 1) + 4–6 (Figs 43, 44), hind basitarsus with 0 or 1 apical spur; rhinaria present basally or apically on 1st flagellomere (Figs 27–29); *Cu* of hindwing unbranched (Figs 50, 52, 54, 56) (Dynopsyllini) 3

3 Several rhinaria present at base of 1st flagellomere, 2nd flagellomere without rhinaria (Figs 28, 29); *M+Cu* of forewing absent or very short, *Cu* stem present (Figs 53, 55); branching of *M* and *Cu* of hindwing proximal, indistinct (Figs 54, 56); basal spine of hind tibia present, apical spurs of hind basitarsus absent; apical segment of aedeagus subdivided (Figs 81, 83) (Triozamiina) 4

– One or more rhinaria present subapically on 1st flagellomere (Fig. 27), rhinaria present subapically on 2nd flagellomere; forewing with *M+Cu* present, *Cu* stem very short or absent (Figs 49, 51); hindwing with distinct *M+Cu* stem (Figs 50, 52); hind tibia without a basal spine, hind basitarsus with a single apical spur; apical segment of aedeagus undivided (Figs 77, 79) (Dynopsyllina) 5

4 Anterolateral tubercles of vertex absent (Figs 8, 9); antennal scape not elongate, as long as pedicel (Fig. 9); *M+Cu* absent from forewing (Fig. 53); lateral lobes of ♂ proctiger well-developed and with inner apical lobes; apical part of apical segment of aedeagus elongate, narrow (Fig. 81) . ***TRIOZAMIA***

– Anterolateral tubercles of vertex present (Figs 10, 11); antennal scape swollen and elongate, about three times as long as pedicel (Fig. 11); forewing with short *M+Cu* present (Fig. 55); lateral lobes of ♂ proctiger poorly developed and without inner apical lobes; apical part of apical segment of aedeagus short, swollen (Fig. 83) ..... ***AFRODYNOPSYLLA***

5 Vertex deeply divided by median suture, anterolateral tubercles present (Figs 4, 5); antennal scape elongate, at least twice as long as pedicel (Fig. 5), single rhinarium present subapically on 2nd flagellomere; forewing with *M* stem in contact with or partly fused with *Rs* (Fig. 49) .. **DYNOPSYLLA**

– Vertex shallowly divided by median suture, anterolateral tubercles absent (Figs 6, 7); antennal scape slightly longer than pedicel (Fig. 7); a group of rhinaria present subapically on 1st and 2nd flagellomeres (Fig. 27); forewing with *M* stem entirely separate from *Rs* (Fig. 51) ***AUSTRODYNOPSYLLA***

6 Pterostigma present in forewing, costal break absent (Figs 57–62); antennal flagellum not thickened and densely setose (Macrohomotominae) 7

– Pterostigma absent, costal break present or its position indicated by weakening of sclerotisation of *C+Sc* (Figs 63–74); antennal flagellum thickened and densely setose (Figs 38–40) (Homotominae) 9

7 Pterostigma of forewing elongate, wedge-shaped, M_{1+2} straight, reaching wing margin anterior to wing apex (Figs 57–59); basal segment of aedeagus swollen in apical half (Figs 84, 85) (Edenini) ***MYCOPSYLLA***

– Pterostigma short, ovoid, M_{1+2} curved and reaching wing margin posterior to wing apex (Figs 60–62); basal segment of aedeagus not swollen in apical half (Macrohomotomini) 8

8 Forewing with *Cu* stem about as long as *M+Cu* stem (Fig. 60); basal spine of hind tibia absent. In larva anus and circumanal pore field ventral (Fig. 108); antennal flagellum clearly divided into flagellomeres ***MACROHOMOTOMA***

– *Cu* stem much shorter than *M+Cu* stem (Figs 61, 62); basal spine of hind tibia present. In larva anus and associated pore field apicodorsal (Figs 109–112); antennal flagellum not clearly divided into flagellomeres .... ***PSEUDOERIOPSYLLA***

9 ♂ proctiger unipartite but with well-developed lateral lobes (Fig. 105); forewing with *M+Cu* stem absent (completely fused with *R+M+Cu*), radular area absent from cell m_2 (Fig. 74); hind tibia with an almost complete ring of apical spurs; apical lobes of aedeagus each with a ventral, spiniform process (Fig. 105) (Synozini) .... ***SYNOZA***

– ♂ proctiger bipartite (Figs 99, 101–103), *M+Cu* stem present but sometimes immediately adjacent to *R+M+Cu* stem, radular area present in cell m_2 (Figs 63–73); hind tibia with only part of apical ring thickened: apical lobes of aedeagus simple (Figs 99, 101–103) (Homotomini) .... ***HOMOTOMA***

DYNOPSYLLINAE Bekker-Migdisova

Dynopsyllini Bekker-Migdisova, 1973: 102, in part. Type genus: *Dynopsylla* Crawford.
Homotomini Heslop-Harrison, 1958: 578, in part.

Diagnosed by the presence of groups of wax-producing cells laterally on the posterior abdominal tergites.

The subfamily is divided into two tribes: the Diceraopsyllini, containing *Diceraopsylla*, and the Dynopsyllini. The latter consists of two sister-groups: the Oriental genera *Dynopsylla* and *Austrodynopsylla* comprising the subtribe Dynopsyllina; and the African genera *Triozamia* and *Afrodynopsylla* comprising the subtribe Triozamiina. Hostplants of the group are more diverse than those of other subfamilies and indicate no clear patterns; *Triozamia* species live on recognised varieties of the African subspecies of *Antiaris toxicaria*, *Dynopsylla* species form galls on species of *Ficus* (*Pharmacosycea*) sect. *Oreosycea*, *Austrodynopsylla* is recorded from *Ficus* sp., and *Diceraopsylla* possibly feeds on *Ficus* (*Urostigma*) sect. *Stilpnophyllum*.

DICERAOPSYLLINI trib. n.

This tribe displays the ground-plan features of the Dynopsyllinae and is diagnosed on the suite of primitive characters given in key couplet 2 (p. 141). Only one species is known.
Type genus: *Diceraopsylla* Crawford, here designated.

DICERAOPSYLLA Crawford

Diceraopsylla Crawford, 1912: 425; Ramakrishna Ayyar, 1924: 622; Heslop-Harrison, 1958: 578; Bekker-Migdisova, 1973: 102; Mathur, 1975: 130; White & Hodkinson, 1985: 274; Hodkinson, 1986: 308; Hollis, 1987: 89. Type species: *D. brunettii* Crawford, by original designation and monotypy.

Diceraeopsylla Hollis, 1984: 28. [Misspelling.]

Description. Medium-sized psyllids, 4.5 mm long. Integument of head and thorax sparsely covered with very short setae. Head (Figs 2, 3), from above, narrower than mesoscutum; disc of vertex weakly concave, with clearly defined foveae and rounded margins, lateral ocelli on raised tubercles, median ocellus visible from above, anterolateral tubercles absent, antennal sockets not enlarged and head not of cleft appearance; antennal scape not enlarged or elongate, flagellum filiform, 2.4 times longer than head width, with a single subapical rhinarium on flagellomeres 2, 4, 6 and 7; genae slightly swollen ventrally; ultimate rostral segment short, less than 3 times longer than wide.

Thorax, in profile, weakly arched, pronotum narrowly visible from above. Forewing (Fig. 47) obovate with rounded apex, 2.3 times longer than wide; veins bearing short, sparse setae; $C+Sc$ hardly thickened, costal break present, apex of M_{1+2} reaching wing margin anterior to apex of wing, $M+Cu$ as long as Cu stem, m_1 cell value 1.3, Cu_{1a} strongly arched, cu_1 cell value 2.5, apex of claval suture adjacent to apex of Cu_{1b}, radular areas diffuse and hardly distinguishable from normal wing spinules. Hindwing (Fig. 48) with $M+Cu$ stem present and Cu branched, anal lobe not expanded, costal setae grouped. Basal spine of hind tibia absent, apical spurs forming an almost complete ring (Fig. 45); hind basitarsus with 2 apical spurs.

♂ proctiger bipartite, lateral lobes weakly developed and without inner apical lobes; aedeagus 2-segmented, apical part of basal segment weakly expanded (Fig. 75).

♀ terminalia simple, conical; anus with a simple double ring of wax pores.

Larva unknown.

Hostplant. Possibly *Ficus* (*Urostigma*) sect. *Stilpnophyllum*. This is based on a record in BMNH archives of *Diceraopsylla* sp. on 'rubber', Malaya, Malacca; no corresponding specimen is present in the collection.

Comments. Heslop-Harrison placed this genus in the Carsidarini of his polyphyletic Ciriacreminae but Bekker-Migdisova (1973) recognised *Diceraopsylla* as a homotomid and placed it in the Dynopsyllini. Hollis (1984) erroneously transferred the genus to the Aphalaridae.

One species is recognised here.

Diceraopsylla brunettii Crawford

(Figs 2, 3, 45–48, 75)

Diceraopsylla brunettii Crawford, 1912: 425; Ramakrishna Ayyar, 1924: 622; Mathur, 1975: 131; Hodkinson, 1986: 308. Holotype ♂, INDIA 'Darjeeling' (ZSI) [? lost].

Pauropsylla stevensi Laing, 1930: 168; Loginova, 1972: 839; Mathur, 1975: 109. Holotype ♀, INDIA 'Darjeeling' (BMNH) [examined]. **Syn. n.**

Diceraeopsylla stevensi (Laing) Hollis, 1984: 28. [Misspelling.]

Diceraopsylla stevensi (Laing); Hodkinson, 1986: 308.

Hostplant. Possibly *Ficus elastica* (from BMNH records).

Recorded distribution. India (W. Bengal).

Material examined

India: 1 ♀, Darjeeling (holotype of *Pauropsylla stevensi* Laing). **Burma**: 2 ♂, 1 ♀, Kambaiti (BMNH).

Comments. The subjective synonymy proposed above is based on an examination of the available material and a comparison of the original descriptions. According to Mathur (1975), Crawford's holotype of *Diceraopsylla brunettii* is missing from ZSI collections.

DYNOPSYLLINI Bekker-Migdisova

Dynopsyllini Bekker-Migdisova, 1973: 102, in part.

Diagnosis. Rhinaria present basally or apically on 1st flagellomere; in forewing costal break absent, radular areas narrow and defined, venation modified with either *M+Cu* stem or *Cu* stem reduced or absent; *Cu* stem of hindwing unbranched; apical spurs of hind tibia arranged 0 or 1 + 4–6; hind basitarsus with 0 or 1 apical spur.

Four genera are recognised here in two subtribes, the Oriental Dynopsyllina, and the Afrotropical Triozamiina.

DYNOPSYLLINA Bekker-Migdisova

Dynopsyllini Bekker-Migdisova, 1973: 102, in part.

Diagnosis. Rhinaria present subapically on 1st and 2nd flagellomeres; forewing with *M+Cu* present and *Cu* stem very reduced or absent, M_{1+2} reaching wing margin anterior to wing apex; hindwing with distinct *M+Cu* stem; hind tibia without basal spine, apical spurs arranged 1 + 4, hind basitarsus with 1 apical spur; apical segment of aedeagus undivided.

Comments. This subtribe contains two genera, *Dynopsylla* and *Austrodynopsylla*, species of which have an Oriental and Melanesian distribution.

DYNOPSYLLA Crawford

Dynopsylla Crawford, 1913: 295; 1924: 618; Enderlein, 1921: 119; 1926: 399; Kuwayama, 1931: 122; Heslop-Harrison, 1958: 578; 1960: 240; Bekker-Migdisova, 1973: 102; Mathur, 1975: 132; Hodkinson, 1983: 346; 1986: 308; White & Hodkinson, 1985: 274. Type species: *Dynopsylla cornuta* Crawford, by original designation and monotypy.

Sphingocladia Enderlein, 1914: 231; 1918: 482; 1926: 399; Heslop-Harrison, 1958: 578; Bekker-Migdisova, 1973: 102; White & Hodkinson, 1985: 274. Type species: *Sphingocladia pinnativena* Enderlein, by original designation and monotypy. [Synonymised by Enderlein, 1921: 119; resynonymised by Crawford, 1924: 619; Mathur, 1975: 132.]

Crawfordella Enderlein, 1926: 398; Heslop-Harrison, 1958: 578; Bekker-Migdisova, 1973: 102; Hodkinson & White, 1981: 496. Type species: *Dynopsylla grandis* Crawford, by original designation and monotypy. [Synonymised by Mathur, 1975: 132; resynonymised by Yang, 1984: 175.]

Dynopsilla Crawford; Enderlein, 1921: 119. [Misspelling.].

Description. Large psyllids, up to 7.5 mm long. Integument of head and thorax with a moderately dense covering of long setae. Head (Figs 4, 5), from above, narrower than mesoscutum; disc of vertex concave and deeply divided by median suture, foveae moderately defined, frontal margin rounded and deeply incised by median suture, lateral margins rounded, occipital margin obtuseangular, lateral ocelli on raised tubercles, median ocellus visible from above, anterolateral tubercles strongly developed, antennal sockets enlarged giving head a cleft appearance; antennal scape enlarged and elongate, at least twice as long as pedicel, flagellum elongate filiform, with a single subapical rhinarium on flagellomeres 1, 2, 4, 6 and 7; ultimate rostral segment 2.5–5.0 times longer than wide.

Thorax, in profile, strongly arched (Fig. 41), pronotum narrowly visible from above. Forewing (Fig. 49) ovate, with acute apex, about 2.4 times longer than wide; veins bearing long setae, *C+Sc* thickened, costal break absent, apex of M_{1+2} reaching margin anterior to apex of wing, *M+Cu* long, *Cu* stem short or absent, m_1 cell value about 1.0, cu_1 cell value about 1.0, apex of claval suture distant from apex of Cu_{1b}, radular areas clearly defined; hindwing (Fig. 50) broad, *M+Cu* stem present, *Cu* unbranched, anal lobe not enlarged. Basal spine of hind tibia absent, apical spurs arranged 1 + 4; hind basitarsus with 1 apical spur.

♂ proctiger bipartite, lateral lobes developed but without inner lobes; aedeagus 2-segmented (Fig. 77), basal segment not expanded.

♀ genital segment conical, anal pore ring convoluted.

Larva. 5th instar larva of *D. pinnativena* described by Yang (1984).

Hostplants. Ficus (*Pharmacosycea*) sect. *Oreosycea*; larvae are gall-forming.

Comments. The three species known in this genus all occur on *Ficus nervosa*. They may be separated using the following key:

1 *Cu* stem absent; *M* stem contiguous with basal part of Cu_{1a} and medial part of *Rs* (see Crawford, 1924: 620, fig. 3); antennal pedicel with large ventral lobe **grandis**

– Short *Cu* stem present; *M* stem contiguous with medial part of Cu_{1a} and medial part of *Rs* (Fig. 49); antennal pedicel without ventral lobe 2

2 Antennal scape twice as long as pedicel, flagellum less than 4 times longer than hind tibia; ultimate rostral segment 2.5 times longer than wide *pinnativena*

– Antennal scape 3 times longer than pedicel, flagellum 6 times longer than hind tibia; ultimate rostral segment 5 times longer than wide . *cornuta*

Dynopsylla cornuta Crawford

(Figs 4, 5, 41)

Dynopsylla cornuta Crawford, 1913: 295; 1924: 619; 1925*b*: 62; Enderlein, 1926: 399; Takahashi, 1936: 293; Heslop-Harrison, 1960: 241; Miyatake, 1971: 58; Mathur, 1973: 71; 1975: 133; Hodkinson, 1983: 346. Syntypes, 2♂, 1♀, PHILIPPINES (USNM) [examined].

Hostplant. *Ficus nervosa*; Crawford (1924) stated that the species is gall-forming but did not describe the gall.

Recorded distribution. Philippines (Luzon and Palawan).

Material examined
East Malayasia: 1 ♂, Sarawak. **Indonesia**: 1 ♀, Sulawesi Utara (BMNH); 1 ♀, Sumatra (MNHN). **Philippines**: 3 ♂, 2 ♀, Los Banos (USNM).

Dynopsylla grandis Crawford

'Undetermined species [psyllid]' Ramakrishna Ayyar, 1920: 1030.

Dynopsylla grandis Crawford, 1924: 619; 1925*b*: 62; Takahashi, 1936: 293; Costa Lima, 1942: 103; Mathur, 1973: 70; 1975: 134; Hodkinson, 1986: 308. Syntypes, 3 ♀, INDIA (Kerala), *Ficus nervosa*, (USNM) [examined].

Dinopsylla grandis Crawford; Mani, 1973: 283, [286, probable misidentification]. [Misspelling.]

Crawfordella grandis (Crawford) Enderlein, 1926: 398; Hodkinson & White, 1981: 496.

Hostplant. *Ficus nervosa*; Ramakrishna Ayyar (1920) records this species as forming midrib galls on the upper leaf surface.

Recorded distribution. India (Kerala). The four specimens Crawford (1925*b*) records from Brazil are regarded as bearing incorrect data.

Material examined
India: 3 ♀ (syntypes, USNM).

Dynopsylla pinnativena (Enderlein)

(Figs 49, 50, 77)

Sphingocladia pinnativena Enderlein, 1914: 231; 1918: 482; 1926: 399; Mathur, 1973: 71. Holotype ♂, 'FORMOSA' (IPE) [not examined].

Dynopsylla (*Sphingocladia*) *pinnativena* (Enderlein) Kuwayama, 1922: 368.

Dynopsylla pinnativena (Enderlein) Crawford, 1924: 619; 1925*b*: 62; Kuwayama, 1931: 122; Takahashi, 1936: 293; Miyataki, 1965*b*: 226; Mathur, 1975: 133 Hodkinson, 1983: 346; 1986; 308; Yang, 1984: 175.

Hostplant. *Ficus nervosa*; Takahashi (1936) records this species forming leaf-margin rolls.

Recorded distribution. Taiwan.

Material examined
Vietnam: 1 ♂ (MNHN).

AUSTRODYNOPSYLLA gen. n.

Type species: *Austrodynopsylla encala* sp. n., here designated.

Description. Large psyllids, up to 5.5 mm long. Integument of head and thorax with a moderately dense covering of long setae. Head (Figs 6, 7), from above, narrower than mesoscutum; disc of vertex weakly concave with defined foveae, shallowly divided by median suture, anterior and lateral margins rounded, occipital margin obtuseangular, lateral ocelli on raised tubercles, median ocellus visible from above, anterolateral tubercles absent. Antennal sockets not enlarged and head without cleft appearance; scape not enlarged or elongated; flagellum filiform, 2.4 times longer than head width, with a group of apical rhinaria on flagellomeres 1, 2 and 4, two rhinaria on flagellomere 6 and a double rhinarium on 7; ultimate rostral segment about 3 times longer than wide.

Thorax, in profile, moderately arched, pronotum narrowly visible from above. Forewing (Fig. 51) obovate with rounded apex, about 2.3 times longer than wide, veins bearing long setae. apex of M_{1+2} reaching margin anterior to wing apex, $M+Cu$ stem present, Cu stem virtually absent, m_1 cell value about 1.0, cu_1 cell value about 1.25, apex of claval suture distant from apex of Cu_{1b}, radular areas clearly defined. Hindwing (Fig. 52) broad, $M+Cu$ stem present, Cu unbranched. Basal spine of hind tibia absent, apical spurs of hind tibia arranged 1 + 4 (Fig. 43), hind basitarsus with a single apical spur.

♂ proctiger bipartite, lateral lobes developed and expanded dorsally, without inner lobes apically; aedeagus 2-segmented, basal segment not expanded.

♀ terminalia conical, anal pore convoluted.

Larva unknown.

Hostplant. *Ficus* sp.

Comments. This genus is regarded as the sister-group of *Dynopsylla*; it differs in head and antennal structure (Figs 4–7, 27) and forewing venation (Figs 49, 51).

Austrodynopsylla encala sp. n.

(Figs 6, 7, 27, 43, 51, 52, 78, 79)

Description. Additional to generic characters above. Antennal flagellum 2.35–2.40 times longer than head width; 1st flagellomere with a group of 4–5 rhinaria apically and a subapical rhinarium, 2nd with 3–4 apical rhinaria (Fig. 27), 3rd without rhinaria, 4th with 3 apical rhinaria, 5th without rhinaria, 6th with 2 apical rhinaria, 7th with a double apical rhinarium, 8th with one short pointed seta and one very short truncated seta apically.

Forewing (Fig. 51) hyaline, with small brown patches along $R+M+Cu$, at fork of $M+Cu$ and at apex of Cu_{1b}; 2.13–2.34 times longer than wide, $M+Cu$ stem as long as R stem, Rs short and curved towards M stem, branches of M of equal length; hindwing (Fig. 52) about 0.5 times as long as forewing, with irregularly grouped costal setae; apex of hind tibia as in Fig. 43.

♂ paramere (Fig. 78) lamellar, rounded apically and with a posteroapical tubercle; apical segment of aedeagus (Fig. 79) simple, end-tube of ductus ejaculatorius elongate.

♀ terminalia conical, apices of proctiger and subgenital plate acute, valvulae without serrations.

Measurements (1 ♂, 1 ♀). Maximum width of head, ♂ 0.95, ♀ 0.80; length of antennal flagellum, ♂ 2.28, ♀ 1.88; length of ultimate rostral segment, ♂ 0.19; length of forewing, ♂ 3.85, ♀ 4.55; length of hind tibia, ♂ 0.98, ♀, 0.80. (♀ measurements taken from dry specimen.)

Hostplant. Adult (1 ♀) taken from *Ficus sp.*

Holotype ♂, **New Caledonia**: Mt Koghi, 400-600 m, ii.1973 (*Krauss*) (BPBM); slide- mounted.

Paratype. **New Caledonia**: 1 ♀, Ile des Pins, 7 km N. Kuto, 3–100 m, 16.viii.1979, on *Ficus* sp. (*Gagné*) (BMNH); dry mounted.

TRIOZAMIINA Bekker-Migdisova

Triozamiini Bekker-Migdisova, 1973: 115. Type genus: *Triozamia Vondráček.*

Triozamini Bekker-Migdisova; Hollis, 1984: 9. [Misspelling.]

Triozamiinae Bekker-Migdisova; White & Hodkinson, 1985: 273.

Diagnosis. Several rhinaria present at base or all over surface of 1st flagellomere, 2nd flagellomere without rhinaria; $M+Cu$ stem absent or very short, apex of M_{1+2} reaching wing margin posterior to wing apex, Cu stem present; hindwing with $M+Cu$ stem absent or indistinct; basal spine of hind tibia present, apical spurs arranged 0 + 4–7; apical spurs of hind basitarsus absent; aedeagus 3-segmented.

Comments. This is the sister-group of Dynopsyllina; it contains two Afrotropical genera, *Triozamia* and *Afrodynopsylla*.

TRIOZAMIA Vondráček

Triozamia Vondráček, 1963: 266; Bekker-Migdisova, 1973: 114; Hollis, 1984: 22; White & Hodkinson, 1985: 240. Type species: *Rhinopsylla lamborni* Newstead, by original designation and monotypy.

Description. Robust psyllids, up to 5.5 mm long, somewhat dorsoventrally flattened. Integument of head and thorax densely covered with short setae. Head (Figs 8, 9), from above, slightly narrower than mesoscutum; disc of vertex concave, shallowly divided by median suture, foveae distinct, frontal margin rounded and not deeply divided by median suture, lateral and occipital margins angular, lateral ocelli not on raised tubercles, median ocellus not visible in dorsal view, anterolateral tubercles absent, genae slightly enlarged ventrally and each with a small tubercle below the antennal socket; antennal scape not enlarged or elongate, flagellum filiform, about twice as long as head width, 1st flagellomere bearing several rhinaria, 2nd without rhinaria (Fig. 28), a single subapical rhinarium present on flagellomeres 4, 6 and 7; ultimate rostral segment elongate, 4.2–6.0 times longer than wide.

Thorax, in profile, weakly arched; pronotum wide, clearly visible from above; forewing (Fig. 53) elongate ovate with subangular apex, about 2.75 times longer than wide, veins bearing short setae, $C+Sc$ thickened, costal break absent, apex of M_{1+2} reaching wing margin at apex of wing, $M+Cu$ absent, Cu stem present, m_1 cell value about 4.5, *cu_1* cell value about 0.5, apex of claval suture adjacent to apex of *Cu_{1b}*, radular areas clearly defined; hindwing (Fig. 54) narrow, *M+Cu* stem not clearly defined, *Cu* unbranched. Hind tibia with a basal spine, apical spurs arranged 0 + 6–7 (Fig. 44), hind basitarsus without apical spurs.

♂ proctiger bipartite, with well-developed lateral lobes that bear inner apical lobes; aedeagus 3-segmented, apical segment elongate (Fig. 81).

♀ terminalia elongate, conical; anal pore ring convoluted.

Larva. 5th instar larva of *T. lamborni* described by Hollis (1984).

HOSTPLANT. *Antiaris toxicaria welwitchii.*

COMMENTS. Hollis (1984) retained *Triozamia* in the Triozidae on the basis of the trifurcation of *R+M+Cu* and the absence of a costal break and pterostigma in the forewing, but was doubtful of its position within that family. White & Hodkinson (1985) placed the genus as the sister-group of the rest of the Triozidae minus *Neolithus*. Given the present diagnosis of the Homotomidae, *Triozamia* is more naturally placed here, and the presence of wax-producing cells on the posterior tergites of the adult abdomen indicate its relationship with other members of the Dynopsyllinae. The presence of several rhinaria on the 1st flagellomere and their absence from the 2nd flagellomere, the reduced *M+Cu* stem of the forewing, the proximal branching of *M+Cu* in the hindwing, the absence of apical spurs on the hind basitarsus, and the 3-segmented aedeagus suggest a sister-group relationship with *Afrodynopsylla*. The two genera may be separated using couplet 4 of the key (p. 141).

Three species are included, fully treated by Hollis (1984).

Triozamia lamborni (Newstead)

(Figs 8, 9, 28, 44, 53, 54, 80, 81)

Rhinopsylla lamborni Newstead, 1914: 520; Eastop, 1961: 168. Holotype ♂, NIGERIA [not traced].

Triozamia lamborni (Newstead) Vondráček, 1963: 266, in part; Akanbi, 1981: 113; Hollis, 1984: 23.

Triozamia lambourni (Newstead); Roberts, 1969: 78. [Misspelling.]

HOSTPLANT. *Antiaris toxicaria welwitchii* var. *africana.*

RECORDED DISTRIBUTION. Senegal, Ivory Coast, Ghana, Nigeria, Zaire and Tanzania.

MATERIAL EXAMINED

Adults and larvae from **Senegal**, **Guinea**, **Ivory Coast**, **Ghana**, **Nigeria**, **Zaire** and **Tanzania** (BMNH).

Triozamia usambarensis Hollis

Triozamia usambarensis Hollis, 1984: 24. Holotype ♂, TANZANIA (BMNH) [examined].

HOSTPLANT. *Antiaris toxicaria welwitchii* var. *usambarensis.*

RECORDED DISTRIBUTION. Tanzania.

MATERIAL EXAMINED

Tanzania (type series, BMNH).

Triozamia vondraceki Hollis

[*Triozamia lamborni* (Newstead); Vondráček, 1963: 268, in part. Misidentification.]

Triozamia vondraceki Hollis, 1984: 24. Holotype ♂, UGANDA (BMNH) [examined].

HOSTPLANT. *Antiaris toxicaria welwitchii* [? var. *welwitchii*].

RECORDED DISTRIBUTION. Uganda, Central African Republic.

MATERIAL EXAMINED

Uganda, Central African Republic (type series, BMNH).

AFRODYNOPSYLLA gen. n.

Type species: *Afrodynopsylla gigantea* sp. n., here designated.

DESCRIPTION. Large psyllids, up to 8.0 mm. Integument of head and thorax densely clothed with moderately long setae and with groups of very long setae (Figs 10, 11, 42). Head (Figs 10, 11), from above, narrower than mesoscutum; disc of vertex concave, with clearly defined foveae, frontal margin rounded, lateral margins angular, occipital margin sharply defined, lateral ocelli on raised tubercles, median ocellus visible from above, anterolateral tubercles well-developed; antennal sockets enlarged, giving head cleft appearance, scape enlarged and elongate, pedicel thickened; flagellum filiform, about 2.5 times longer than head width, 1st flagellomere with basal swelling that bears a group of rhinaria (Fig. 29), rhinaria absent from 2nd flagellomere, a single rhinarium present subapically on flagellomeres 4, 6 and 7; ultimate rostral segment elongate.

Thorax, in profile (Fig. 42), strongly arched, pronotum broad and clearly visible from above; forewing (Fig. 55) ovate, with subacute apex, about 2.2 times longer than wide, veins bearing sparse short setae, $C+Sc$ strongly thickened, costal break absent, apex of M_{1+2} reaching wing margin posterior to wing apex, $M+Cu$ stem very short, m_1 cell value about 2.4, cu_1 cell value about 1.2, apex of claval suture adjacent to apex of Cu_{1b}, radular spines in small but clearly defined groups; hindwing (Fig. 56) with $M+Cu$ stem absent, Cu unbranched, anal lobe expanded; hind tibia with a basal spine, apical spurs arranged 0 + 4.

♂ proctiger bipartite, lateral lobes well-developed but without inner apical lobes; aedeagus 3-segmented.

♀ terminalia conical, anus with a simple, double ring of wax-producing cells.

Larva and hostplant unknown.

Afrodynopsylla gigantea sp. n.

(Figs 10, 11, 29, 42, 55, 56, 82, 83)

DESCRIPTION. Antennal flagellum 2.0–2.5 times longer than head width; 1st flagellomere with a basal swelling bearing a group of 15–20 rhinaria mainly on ventral surface (Fig. 29), 8th flagellomere with a long pointed seta and a short truncated seta apically; ultimate rostral segment 4.5 times longer than wide.

Dorsum of thorax with tufts of long setae (Fig. 42); forewing (Fig. 55) 2.15–2.35 times longer than wide, membrane hyaline, $C+Sc$ considerably thickened, Rs straight; hindwing (Fig. 56) about half as long as forewing; hind tibia with a well-developed basal spine; hind basitarsus much longer than apical tarsal segment.

♂ paramere as in Fig. 82; aedeagus 3-segmented (Fig. 83), apical segment short and strongly swollen apically.

♀ terminalia short, conical in profile; apices of proctiger and subgenital plate acute; apices of valvulae not serrate.

Measurements (2 ♂, 1 ♀). Maximum width of head, ♂ 1.02–1.14, ♀ 1.14; length of antennal flagellum, ♂ 2.58–2.68, ♀ 2.21; length of ultimate rostral segment, ♂ 0.42–0.44, ♀ 0.42; length of forewing, ♂ 5.16–5.43, ♀ 5.69; length of hind tibia, ♂ and ♀, 1.14.

Holotype ♂, **Angola**: Salazar, I.I.A.A., 9–15.iii.1972, at light (*Hollis*) (BMNH); dry-mounted.

Paratypes. **Angola**: 1 ♀, same data as holotype. **Central African Republic**: 3 ♂, 2 ♀, Lobaye Mbaik, rte Mbale, 12.ii.1969, light trap in forest zone (*Boulard*). **Nigeria**: 1 ♀, Ile-Ife, 11.i.1971 (*Medler*). (BMNH; MNHN); dry- and slide-mounted.

MACROHOMOTOMINAE White & Hodkinson

Macrohomotominae White & Hodkinson, 1985: 272. Type genus: *Macrohomotoma* Kuwayama.

Dynopsyllini Bekker-Migdisova, 1973: 102, in part.

Phacopteronini Heslop-Harrison, 1958: 578, in part.

Homotomini Heslop-Harrison, 1958: 578, in part.

Diagnosed by the presence of a pterostigma and the absence of a costal break in the forewing.

White & Hodkinson (1985) defined the Macrohomotominae (as clade 34, fig. 188) on the following characters.

1. Male proctiger expanded posteriorly to form caudal lobes.
2. Circum-anal ring [of wax-producing cells] of larva constricted on either side of anus, or broken into three groups.
3. Body margin of larva without sectasetae or derivable structures.
4. Dorsal surface of larva without sectasetae or derivable structures.

The first character is diagnostic for the Homotomidae and is of no value below this level. The second character is not useful as it occurs also in the Homotominae. The third character is not valid as marginal sectasetae do occur in larvae of *Mycopsylla, Macrohomotoma* and *Pseudoeriopsylla.* The fourth character is not diagnostic as sectasetae are present dorsally on the caudal plate of *Pseudoeriopsylla* larvae, and sectasetae are absent from the larvae of the species of Dynopsyllinae examined and described.

The only adult character found to be useful in diagnosing the Macrohomotominae is the presence of a pterostigma in the forewing, coupled with the absence of a costal break. No diagnostic characters were found in the larvae.

Hostplants of the group are in *Ficus* (*Urostigma*) sects *Urostigma, Conosycea, Malvanthera* and *Galoglychia.*

Two tribes are recognised.

EDENINI Bhanotar, Ghosh & Ghosh.

Edenini Bhanotar, Ghosh & Ghosh, 1972: 119. Type genus: *Edenus* Bhanotar, Ghosh & Ghosh.

Dynopsyllini Bekker-Migdisova, 1973: 102, in part.

Mycopsyllini White & Hodkinson, 1985: 242, 272. Type genus: *Mycopsylla* Froggatt. **Syn. n.**

DIAGNOSIS. Pterostigma of forewing elongate, wedge-shaped; M_{1+2} straight, reaching wing margin anterior to wing apex; basal segment of aedeagus swollen in apical half.

A single genus, *Mycopsylla*, is included, species of which have an Oriental and Australasian distribution.

MYCOPSYLLA Froggatt

Mycopsylla Froggatt, 1901: 258; Aulmann, 1913: 30; Tuthill & Taylor, 1955: 248; Mathur, 1975: 150; Morgan, 1984: 118; Kandasamy, 1987: 68. Type species: *Psylla fici* Tryon, by original designation.

Edenus Bhanotar, Ghosh & Ghosh, 1972: 119. Type species: *Edenus gardenensis* Bhanotar, Ghosh & Ghosh, by monotypy. [Synonymised by Hodkinson, 1986: 318.]

DESCRIPTION. Medium- to large-sized psyllids, up to 8.0 mm long. Integument of head and thorax sparsely covered with short setae. Head (Figs 12–17), in dorsal view, almost as wide as mesoscutum; disc of vertex from flat to concave and deeply incised by median suture, foveae weak, anterior and lateral margins rounded, occipital margin angular, lateral ocelli not or on slightly raised tubercles, median ocellus just visible from above, anterolateral tubercles absent or present; antennal sockets weakly enlarged, giving head a weakly cleft appearance, antennal scape not enlarged or elongate; flagellum (Figs 30, 31) filiform, 1.0–3.3 times longer than head width, a single subapical rhinarium always present on flagellomeres 2, 4, 6 and 7, sometimes also present on 1, 3 and 5; genae swollen ventrally; ultimate rostral segment 1.8–3.4 times longer than wide.

Thorax, in profile, moderately arched, mesopraescutum sharply descending anteriorly, pronotum hardly visible from above; forewing (Figs 57–59) narrowly obovate with acute apex, 2.4–2.7 times longer than wide, $C+Sc$ thickened basally, costal break absent, elongate wedge-shaped pterostigma present, apex of M_{1+2} reaching wing margin anterior to wing apex, $M+Cu$ stem longer or shorter than Cu stem, m_1 cell value about 1.0, cu_1 cell value 1.4–1.7, apex of claval suture adjacent to apex of Cu_{1b}, radular areas diffuse or partly defined; basal spine of hind tibia present, apical spurs forming an incomplete ring with inner spurs larger than outer spurs; hind basitarsus with 2 apical spurs.

♂ proctiger bipartite; lateral lobes well-developed, either elongate-narrow and without inner apical lobes (Figs 84, 85) or broad-robust with inner apical lobes (Figs 87, 90); basal segment of aedeagus swollen in apical half, apical segment either elongate and simple (Figs 84, 85) or short and modified (Figs 87, 90).

♀ terminalia either short, with proctiger rounded apically and anal pore ring convoluted (Fig. 86), or conical with proctiger acute apically and anal pore ring simple (Fig. 89).

Larva. The larvae of *M. fici* and *M. proxima* are described by Froggatt (1901). Dorsal and ventral caudal plates of *M. kina* and *M. obliqua* are figured below (Figs 106, 107).

COMMENTS. Nine nominal species, including four described below, are included in the genus. However, the three recorded names for the Indian species are probably synonymous. Two species-groups can be recognised.

fici group

Antennal flagellum elongate, with rhinaria on flagellomeres 2, 4, 6 and 7, and occasionally on 1; *Cu* stem longer than $M+Cu$ stem; aedeagus short and robust with modified apical segment; lateral lobes of ♂ proctiger elongate-narrow; ♀ terminalia short and rounded apically, with convoluted anal pore ring.

Seven nominal species are included in this group, distributed in India, Australia, New Guinea and New Caledonia on *Ficus* (*Urostigma*) sects *Urostigma, Conosycea* and *Malvanthera*. Apart from the three Indian 'species' they can be individually identified by the structure of the male genitalia.

Mycopsylla gardenensis (Bhanotar, Ghosh & Ghosh)

(Figs 12, 13, 57)

Edenus gardenensis Bhanotar, Ghosh & Ghosh, 1972: 109. Holotype ♀, INDIA: on *Psidium guajava* (ZSI) [not examined].

Mycopsylla gardenesis (Bhanotor, Ghosh & Ghosh) Rajamohan et al., 1975: 138. [Misspelling.]

Mycopsylla gardenensis (Bhanotar, Ghosh & Ghosh); Hodkinson, 1986: 318; Kandasamy, 1987: 69.

HOSTPLANTS. *Ficus mollis, F. tsjahela* (or *F. virens*). *F. microcarpa*, possibly *F. religiosa*, doubtfully *Psidium guajava*. According to Rajamohan et al. (1975) the larvae cause leaf-margin rolls on *F. mollis*.

Recorded distribution. India: W. Bengal, Tamil Nadu, Orissa.

Material examined

India: Tamil Nadu, adults and larvae, on *F. mollis*; adults and larvae, on *F. religiosa*; Orissa, adults, on *F. tsjahela* (or *F. virens*). **Bangladesh**: adults. **Singapore**: larvae on *F. microcarpa* (BMNH).

Mycopsylla indica Mathur

Mycopsylla indica Mathur, 1975: 151; Hodkinson, 1986: 319; Kandasamy, 1987: 71, 72, 76. Holotype ♂, INDIA: on *Santalum album* (FRI) [not examined].

Hostplant. Recorded by Mathur on *Santalum album* but this is regarded here as a doubtful host record as the type series was collected during the 'Sandal Insect Survey' and many of these records are for vagrant specimens.

Recorded distribution. India: Tamil Nadu.
No material examined.

Comments. This species is probably not distinct from *M. gardenensis*.

Mycopsylla mathuriana Kandasamy

Mycopsylla mathuriana Kandasamy, 1987: 71. Holotype ♀, INDIA: on *Ficus religiosa* (ZSI) [not examined].

Hostplant. *Ficus religiosa*.

Recorded distribution. India: Tamil Nadu.
No material examined.

Comments. This species is probably not distinct from *M. gardenensis*.

Mycopsylla fici (Tryon)

Psylla fici Tryon, 1895: 60. Syntypes adults, larvae and eggs, AUSTRALIA (Qld): on *Ficus macrophylla* (not traced).

Mycopsylla fici (Tryon) Froggatt, 1901: 259; 1923: 146; Tuthill & Taylor, 1955: 248; Hodkinson, 1983: 354; Morgan, 1984: 110.

Mycopsylla fici Froggatt; Aulmann, 1913: 30.

Hostplant. *Ficus macrophylla*

Recorded distribution. Australia: NSW, QLD.

Material examined

Australia: NSW, QLD, Lord Howe Is. (BMNH).

Mycopsylla proxima Froggatt

Mycopsylla proxima Froggatt, 1901: 261; Aulmann, 1913: 31; Tuthill & Taylor, 1955: 248; Morgan, 1984: 110. Syntypes larvae and adults, AUSTRALIA (NSW): on *Ficus rubiginosa* (?ANIC) [not examined].

Hostplant. *Ficus rubiginosa*.

Recorded distribution. Australia: NSW.

Material examined

Australia: 2 ♂, NSW, 'on yellow fig' BMNH).

Mycopsylla kina **sp. n.**

(Figs 30, 84, 106)

Description. Moderately large psyllids, up to 6.5 mm. long. Vertex concave, without anterolateral tubercles or ridges. Antennal flagellum long, 3.0–3.3 times longer than head width, 1st flagellomere (Fig. 30) with about 17 rhinaria ventrally in basal third, 2nd with 1 subapical rhinarium, 4th with 1 or 2, 6th with 1, 7th with 1, 8th with 1 short truncate and 1 long pointed seta apically; ultimate rostral segment 2.8 times longer than wide.

Forewing 2.39–2.54 times longer than wide, $M+Cu$ stem shorter than Cu stem, m_1 cell value about 1.0, cu_1 cell value 1.7, radular areas diffuse, apex of claval suture close but not adjacent to apex of Cu_{1b}; hindwing 0.5 times as long as forewing.

♂ proctiger (Fig. 84) with narrow, curved, strap-like lateral lobes without inner apical lobes; aedeagus as in Fig. 84; paramere conical (Fig. 84).

♀ terminalia short, bulbous; proctiger broadly rounded apically, 0.5 times as long as head width, circum-anal pore ring weakly convoluted; subgenital plate broadly incised apically.

Measurements (3 ♂, 1 ♀). Maximum width of head, ♂ 1.04–1.12, ♀ 1.18; length of antennal flagellum, ♂ 3.2–3.54, ♀ 3.52; length of ultimate rostral segment, ♂ 0.18, ♀ 0.20; length of forewing, ♂ 4.68–4.88, ♀ 6.10; length of hind tibia, ♂ 1.02–1.08, ♀ 1.10; length of ♀ proctiger, 0.62.

Larva. Dorsal and ventral caudal plates and circum-anal pore as in Fig. 106, marginal sectasetae on strongly raised bases.

Hostplant. *Ficus* sp., 'hard fruited'.

Holotype ♂, **Papua New Guinea**: E. Highlands, Aiyura, 5,800′, *Ficus*, hard fruited, under latex cover, 1958 (*Barrett*) (BMNH); slide-mounted.

Paratypes. **Papua New Guinea**: 2 ♂, 6 ♀, larvae, same data as holotype (BMNH); slide- and dry-mounted.

COMMENTS. This species may be distinguished from other members of the *fici* group by the group of rhinaria present at the base of the 1st flagellomere and the simple, non-bifid form of the male paramere.

From the data accompanying the type series it would seem that the larvae of this species live beneath a cover composed of their dried anal exudate, similar to both the described Australian species. The larvae of another member of the *fici* group, *M. gardenensis*, live within the leaf-margin rolls they induce in their host. This contrasts with the larvae of *M. obliqua* which are free-living.

Mycopsylla tuberculata sp. n.

(Figs 14, 15, 85, 86)

DESCRIPTION. Medium-sized psyllids, up to 5.0 mm. long. Head (Figs 14, 15) with concave vertex and well-developed anterolateral tubercles. Antennal flagellum 2.5 times longer than head width, a single subapical rhinarium present on flagellomeres 2, 4, 6 and 7, 8th flagellomere with 1 long pointed medial seta and 1 short truncate apical seta; genae swollen ventrally; ultimate rostral segment 3.0 times longer than wide.

Forewing 2.54–2.62 times longer than wide, $M+Cu$ stem shorter than Cu stem, m_1 cell value 1.0, cu_1 cell value 1.5, radular areas diffuse, apex of claval suture a little distant from apex of Cu_{1b}; hindwing 0.6 times as long as forewing.

♂ proctiger (Fig. 85) with strap-like, curved lateral lobes; aedeagus as in Fig. 85; paramere (Fig. 85) strongly bifid apically.

♀ terminalia (Fig. 86) short, rounded; proctiger broadly rounded apically, circum-anal pore ring weakly convoluted; subgenital plate broadly incised apically.

Measurements (1 ♂, 1 ♀). Maximum width of head, ♂ 0.8, ♀ 0.84; length of antennal flagellum, ♀ 2.1; length of ultimate rostral segment, ♂ 0.15, ♀ 0.16; length of forewing, ♂ 3.46, ♀ 4.16; length of hind tibia, ♂ 0.74, ♀ 0.76; length of ♀ proctiger, 0.54.

Larva and hostplant unknown.

Holotype ♂, **New Caledonia**: Ile des Pins, 7 km N. Kuto, 30–100 m, 16.viii.1979 (*Gagné*) (BPBM); slide-mounted.

Paratypes. **New Caledonia**: 1 ♀, Mts des Koghis, 400–600 m, i.1969; 1 ♀, ii.1978; 1 ♀, Poindimie, 0–50 m, i.1969 (*Krauss*) (BPBM; BMNH); slide- and dry-mounted.

COMMENTS. *M. tuberculata* differs from other members of the *fici* group in having well-developed anterolateral tubercles on the vertex and a distinctive aedeagal apex that bears a medioventral spinulose lobe. In *M. gardenensis* the ventral lobe is convoluted and membraneous, and in *fici* and *proxima* the structure is bilobed.

obliqua group

Antennal flagellum short, with a single apical seta and a single apical flagellum on flagellomeres 1–7; Cu stem shorter than $M+Cu$ stem; ♂ aedeagus long and slender; lateral lobes of ♂ proctiger broad, with inner apical lobes; ♀ terminalia long, conical, acute apically, anal pore oval.

Two closely related species are included here, one from New Caledonia on *Ficus* (*Urostigma*) *Malvanthera*; the other from Loyalty Is, with unknown trophic relationships.

Mycopsylla obliqua sp. n.

(Figs 16, 17, 31, 58, 87-89, 107)

DESCRIPTION. Moderately large psyllids, up to 5.0 mm long. Head (Figs 16, 17) with vertex weakly concave and shallowly incised by median suture, anterolateral tubercles absent. Antennal flagellum (Fig. 31) 1.25 (♂) and 1.0 (♀) times longer than head width, a single subapical rhinarium present on flagellomeres 1–7 and a single, long, subapical seta present on flagellomeres 1–6, 8th flagellomere with 2 long setae apically; ultimate rostral segment 2.0 times longer than wide.

Forewing (Fig. 58) 2.5–2.7 times longer than wide; R_1 short, one-third the length of R stem, Rs at least 3 times longer than R stem with its apex at the apex of the pterostigma, $M+Cu$ longer than Cu stem, m_1 cell value 1.0, cu_1 cell value 1.4, apex of claval suture distant from apex of Cu_{1b}, radular areas defined; hindwing almost 0.5 times as long as forewing.

♂ proctiger (Fig. 87) with broad lateral lobes; apex of aedeagus (Fig. 87) narrow; paramere (Fig. 88) thumb-shaped in profile, inner surface with a small median tubercle, an anteroapical ridge and a posteroapical tubercle.

♀ terminalia (Fig. 89) conical, proctiger 1.06–1.08 times longer than head width, circum-anal pore ring simple.

Measurements (3 ♂, 3 ♀). Maximum width of head, ♂ 0.92–0.98, ♀ 1.02–1.04; length of antennal flagellum, ♂ 1.16–1.24, ♀ 1.00–1.04; length of ultimate rostral segment, ♂ 0.10, ♀ 0.12; length of forewing, ♂ 3.56–3.88, ♀ 4.16–4.32; length of hind tibia, ♂ and ♀, 0.70–0.72; length of ♀ proctiger, 1.08–1.10.

Larva. Dorsal and ventral caudal plates and circum-anal pore ring as in Fig. 107; marginal setae of caudal plates not on raised tubercles.

Hostplant. *Ficus obligua.*

Holotype ♂, **New Caledonia**: Noumea, ORSTOM Centre, 20–24.iii.1982, *Ficus obliqua* (*Hollis*) (BMNH); dry-mounted.

Paratypes. **New Caledonia**: 6 ♂, 8 ♀, larvae, same data as holotype (BMNH; MNHN); slide- and dry-mounted.

Mycopsylla propinqua sp. n.

(Figs 59, 90, 91)

Description. Very similar to *M. obliqua* but differing in forewing venation (Figs 58, 59), and in the structure of the ♂ proctiger (Figs 87, 90), aedeagus (Figs 87, 90) and paramere (Figs 88, 91).

Antennal flagellum 1.51 times longer than head width; ultimate rostral segment 1.8 times longer than wide.

Forewing (Fig. 59) 2.72 times longer than wide; R_1 half as long as R stem, Rs just over twice as long as R stem with its apex reaching the posterior margin of the pterostigma proximal to the latter's apex, m_1 cell value 1.0, cu_1 cell value 1.59; hindwing 0.35 times as long as forewing.

♂ proctiger (Fig. 90) with lateral lobes narrow basally and broadening apically; aedeagus (Fig. 90) bulbous apically; paramere (Fig. 91) with obliquely truncate apex, inner surface with an anterior tubercle in apical third and 2 parallel ridges anteroapically.

♀ unknown.

Measurements (1 ♂). Maximum width of head, 1.06; length of antennal flagellum, 1.60; length of ultimate rostral segment, 0.11; length of forewing, 4.68; length of hind tibia, 0.82.

Larva and hostplant unknown.

Holotype ♂, **Loyalty Is**: We, Lifou I., 16–18.ii.1963, light trap (*Yoshimoto*) (BPBM); slide-mounted.

MACROHOMOTOMINI

Macrohomotomini White & Hodkinson, 1985: 242, 272. Type genus: *Macrohomotoma* Kuwayama.

Diagnosis. Pterostigma short, ovoid; M_{1+2} curved and reaching wing margin posterior to wing apex; basal segment of aedeagus not swollen in apical half.

Two genera are included here, the Oriental *Macrohomotoma* and the Afrotropical *Pseudoeriopsylla*. These genera were synonymised by Crawford (1914) and the synonymy was accepted by Enderlein (1921). White & Hodkinson (1985) treated them as separate genera and this is accepted here as both groups can be distinguished on adult and larval characteristics (see key couplet 8, p. 141), and have a clear geographical and hostplant separation.

MACROHOMOTOMA Kuwayama

Macrohomotoma Kuwayama, 1907: 179; Crawford, 1911: 483; 1914: 62; 1919: 157; 1925*b*: 36; Aulmann, 1913: 36; Enderlein, 1914: 233; 1921: 119; Ramakrishna Ayyar, 1924: 622; Boselli, 1930: 178; Kuwayama, 1931: 125; Heslop-Harrison, 1958: 578; 1960: 161; Loginova, 1972: 843; Bekker-Migdisova, 1973: 102; Mathur, 1975: 135; Hodkinson, 1983: 352; 1986: 316; Yang, 1984: 156; Yang & Li 1984*b*: 370. Type species: *Macrohomotoma gladiata* Kuwayama, by original designation and monotypy.

Description. Large psyllids, up to 9.5 mm long. Integument of head and thorax sparsely covered with very short setae. Head (Figs 18, 19), from above, as wide as mesoscutum; disc of vertex weakly concave, foveae forming transverse depressions, anterior and lateral margins rounded, occipital margin angular, lateral ocelli not on raised tubercles, median ocellus just visible from above, anterolateral tubercles absent; antennal sockets not enlarged and head without cleft appearance; antennal scape not enlarged or elongate; flagellum short, filiform, 0.7–0.9 times as long as head width, rhinaria present on flagellomeres 1–7; genae swollen ventrally; ultimate rostral segment about twice as long as wide.

Thorax, in profile, strongly arched, pronotum visible from above; forewing (Fig. 60) ovate, with subacute apex, 2.2–2.6 times longer than wide, veins bearing short setae, $C+Sc$ not thickened, costal break absent, ovoid pterostigma present, apex of M_{1+2} reaching wing margin posterior to wing apex, Cu stem about as long as $M+Cu$ stem, m_1 cell value about 1.8, cu_1 cell value about 1.0, apex of claval suture adjacent to apex of Cu_{1b}, radular areas well-defined; basal spine of hind tibia absent, apical spurs arranged 0 + 4, hind basitarsus with 2 apical spurs.

♂ proctiger bipartite, lateral lobes well-developed and each with an inner apical lobe; aedeagus 2-segmented; basal segment weakly swollen subapically.

♀ terminalia conical, anal pore ring normally simple oval, rarely convoluted.

Larva. Anus and associated wax pores ventral (Fig. 108).

Hostplants. *Ficus* (*Urostigma*) sect. *Conosycea.*

COMMENTS. Fourteen species are currently recognised in this genus, distributed from India to N. Queensland. However, most of these are poorly described and the genus requires revision.

Macrohomotoma apsylloides (Crawford)

Pauropsylla apsylloides Crawford, 1919:144. Syntypes ♂ and ♀, INDONESIA, EAST MALAYSIA, MACAO, HAWAII (USNM) [not examined].

Macrohomotoma apsylloides (Crawford) Crawford, 1920: 353; 1925*a*: 36; Heslop- Harrison, 1958: 570; 1960: 161; Loginova, 1972: 840; Mathur, 1975: 139; Hodkinson, 1983: 352; 1986: 316.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION: Indonesia: Tanimbar Is. East Malaysia: Sabah. Macao and Hawaii.
No material examined.

Macrohomotoma geniculata Mathur

Macrohomotoma geniculata Mathur, 1975: 136; Hodkinson, 1986: 316. Holotype ♂, INDIA: on *Ficus microcarpa* (FRI) [not examined].

HOSTPLANT. *Ficus microcarpa*.

RECORDED DISTRIBUTION. India (Uttar Pradesh, Karnataka).

MATERIAL EXAMINED
India: Karnataka, adults and larvae on *Ficus* sp. (BMNH).

Macrohomotoma gladiata Kuwayama

(Figs 18, 19, 60, 108)

Macrohomotoma gladiatum Kuwayama, 1907: 180; Crawford, 1911: 490; 1914: 63; 1925*a*: 37; [1928: 425, misidentification]; Aulmann, 1913: 36; Enderlein, 1914: 233; 1921: 119; Kuwayama, 1922: 368; 1931: 125; Boselli, 1930: 178; Miyatake, 1965*a*: 173; Mathur, 1975: 135; Hodkinson, 1983: 352. Holotype ♀, TAIWAN (EIHU) [not examined].

Macrohomotoma gladiata Kuwayama; Yang, 1984: 157.

[*Macrohomotoma striata* Crawford; Hill & Cheung, 1978: 51; Hill et al., 1982: 175. Misidentifications.]

HOSTPLANT. *Ficus microcarpa* (many records as *F. retusa*).

RECORDED DISTRIBUTION. Japan (Ryukyu Is), Taiwan. Crawford's (1928) record of this species from Sumatra is erroneous as a male bearing Crawford's determination label in BMNH represents a different species.

MATERIAL EXAMINED
Hong Kong: adults on *Ficus microcarpa*; adults and larvae on *F. ? benghalensis*. (BMNH).

Macrohomotoma hylocola Yang & Li

Macrohomotoma hylocola Yang & Li, 1984*b*: 376, 380; Hodkinson, 1986: 316. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].

HOSTPLANT. *Ficus* sp.

RECORDED DISTRIBUTION. China: Yunnan.
No material examined.

Macrohomotoma maculata Mathur

Macrohomotoma maculata Mathur, 1975: 140; Hodkinson, 1986: 316. Holotype ♀, INDIA: on *Santalum album* (FRI) [not examined].

HOSTPLANT. The type series was probably vagrant on the recorded host.

RECORDED DISTRIBUTION. India: Tamil Nadu, Karnataka.

MATERIAL EXAMINED
India: 1 ♂, 2 ♀, Tamil Nadu (same locality as holotype, BMNH).

Macrohomotoma magna Yang & Li

Macrohomotoma magna Yang & Li, 1984*b*: 375; Hodkinson, 1986: 316. Holotype ♀, CHINA: on *Ficus* sp. (BAUIC) [not examined].

Macrohomotoma magne Yang & Li, 1984*b*: 380. [Misspelling.]

HOSTPLANT. *Ficus* sp.

RECORDED DISTRIBUTION. China: Yunnan.
No material examined.

Macrohomotoma minana Yang & Li

Macrohomotoma minana Yang & Li, 1984*b*: 373, 380; Hodkinson, 1986: 316. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].

HOSTPLANT. *Ficus* sp.

RECORDED DISTRIBUTION. China: Fujian.
No material examined.

Macrohomotoma robusta Yang

Macrohomotoma robusta Yang, 1984: 160; Hodkinson, 1986: 316. Holotype ♂, TAIWAN: on *Ficus benjamina* (NCHU) [not examined].

Hostplant. *Ficus benjamina.*

Recorded distribution. Taiwan.
No material examined.

Macrohomotoma sandakana Crawford

[*Pauropsylla apsylloides* Crawford, 1919: 144. Misidentification, in part.]
Macrohomotoma sandakana Crawford, 1925*a*: 38; Hodkinson, 1983: 352. Holotype ♂, EAST MALAYSIA (USNM) [not examined].

Hostplant. Unknown.

Recorded distribution. East Malaysia: Sabah.
No material examined.

Macrohomotoma sinica Yang & Li

Macrohomotoma sinica Yang & Li, 1984*b*: 371, 379; Hodkinson, 1986: 316. Holotype ♂, CHINA: on *Ficus* spp. (BAUIC) [not examined].

Hostplant. *Ficus microcarpa* (as *F. retusa*), *Ficus* sp., ? *F. microphylla* [not listed by Corner (1965)].

Recorded distribution. China: Fujian.
No material examined.

Macrohomotoma striata Crawford

Macrohomotoma striata Crawford; Ramakrishna Ayyar, 1924: 622, nomen nudum.
Macrohomotoma striata Crawford, 1925*a*: 38; [Miyatake, 1965*a*: 174, ? misidentification]; Mathur, 1975: 144; Hodkinson, 1983: 352; 1986: 316. Holotype ♀, INDIA: on *Ficus* sp. (? USNM) [not examined].

Hostplant. *Ficus* sp.; Miyatake's (1965a) record of this species from the Ryukyu Is on *F. microcarpa* (as *F. retusa*) is probably a misidentification.

Recorded distribution. India: Karnataka. Japan: Ryukyu Is [possible misidentification by Miyatake (1965*a*)].
No material examined.

Macrohomotoma viridis Yang & Li

Macrohomotoma viridis Yang & Li, 1984*b*: 377, 380; Hodkinson, 1986: 317. Holotype ♀, CHINA: on *Ficus* sp. (BAUIC) [not examined].

Hostplant. *Ficus* sp.

Recorded distribution. China; Yunnan.
No material examined.

Macrohomotoma williamsi Crawford

Macrohomotoma williamsi Crawford, 1925*a*: 37; Hodkinson, 1983: 352. Syntypes, ♂ and ♀, PHILIPPINES: on *Ficus clementis* (USNM) [2 ♀ examined].

Hostplant. *Ficus crassiramea* var. *clementis.*

Recorded distribution. Philippines.

Material examined
Philippines: 2 ♀ syntypes (USNM).

Macrohomotoma yunana Yang & Li

Macrohomotoma yunana Yang & Li, 1984*b*: 374, 380; Hodkinson, 1986: 317. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].

Hostplant. *Ficus* sp.

Recorded distribution. China: Yunnan.
No material examined.

PSEUDOERIOPSYLLA Newstead

Pseudoeriopsylla Newstead, 1911: 105; Yang & Li, 1984*b*: 370 (as a synonym of *Macrohomotoma*); White & Hodkinson, 1985: 242. Type species: *Pseudoeriopsylla nyasae* Newstead, by monotypy.
Pseuderiopsylla Newstead; Crawford, 1914: 62 (as a synonym of *Macrohomotoma*). [Misspelling.]

Description. Large psyllids, up to 8.0 mm long. Integument of head and thorax sparsely covered with very short setae. Head (Figs 20, 21), from above, almost as wide as mesoscutum; disc of vertex concave with foveae weakly defined, anterior and lateral margins rounded, occipital margin angular, lateral ocelli not on raised tubercles, median ocellus just visible from above, anterolateral tubercles absent; antennal sockets not enlarged and head without cleft appearance, antennal scape not enlarged or elongate; flagellum filiform, 1.0–1.7 times longer than head width, rhinaria present on flagellomeres 2–7 (Figs 32–37); (sometimes absent from 5); genae slightly swollen ventrally; ultimate rostral segment short, 2.0–4.0 times longer than wide.

Thorax, in profile, moderately arched; pronotum narrowly visible from above and descending vertically behind occiput; forewing (Figs 61, 62) ovate, with subacute apex, 2.15–2.45 times longer than wide, veins bearing sparse short setae, $C+Sc$ slightly thickened proximally, costal break absent, well-defined subcircular pterostigma present, apex of M_{1+2} reaching wing margin posterior to wing apex, Cu stem much shorter than $M+Cu$ stem, m_1 cell value 1.5–1.9, cu_1 cell value 0.7–1.2, apex of claval suture adjacent to apex of Cu_{1b}, radular areas well-defined; basal spine of hind tibia present, apical spurs arranged 0 + 4, hind basitarsus with 2 apical spurs.

♂ proctiger bipartite, lateral lobes well-developed, each with a small inner apical lobe; aedeagus 2-segmented, basal segment not swollen.

♀ terminalia conical, anal pore ring convoluted.

Larva. Anus and associated wax pores terminodorsal (Figs 109–112).

Hostplants. *Ficus* (*Urostigma*) sect. *Galoglychia*.

Comments. Crawford (1914) considered this genus to be synonymous with *Macrohomotoma* but White & Hodkinson (1985) regarded the two as distinct. Although clearly a sister-pair there are good characters in both larvae and adults that separate the two genera (see key couplet 8, p. 141).

Until recently *Pseudoeriopsylla* was thought to be monobasic but a critical examination of the available material has revealed a complex of at least six species in tropical Africa. These are differentiated and described below.

Key to species of *Pseudoeriopsylla*

1 Rhinaria present over whole surface of 1st flagellomere (Figs 33–35) 2

– Rhinaria present only apically or subapically on 1st flagellomere (Figs 32, 36, 37) 4

2 Rhinaria present over whole lengths of flagellomeres 2–5 (Fig. 35); ♂ paramere (Fig. 96) obliquely truncate apically; ♀ proctiger not less than 1.4 times longer than head width................. *carvalhoi*

– Rhinaria present only subapically on flagellomeres 2–5 (Figs 33, 34); ♂ paramere (Figs 93, 95) rounded apically; ♀ proctiger not more than 1.3 times longer than head width 3

3 ♂ paramere (Fig. 95) narrow, thumb-like, anterior tubercle on inner surface hook-like........ *medleri*

– ♂ paramere (Fig. 93) broader, anterior tubercle on inner surface truncate..................... *laingi*

4 ♂ paramere (Fig. 92) conical, with a subacute apical tubercle; 1st and 2nd flagellomeres with several rhinaria subapically (Fig. 32) .... *nyasae*

– ♂ paramere thumb-shaped (Figs 97, 98), with two tubercles on inner surface subapically; 1st and 2nd flagellomeres each with a single subapical rhinarium (Figs 36, 37)................................ 5

5 Antennal flagellum not less than 1.4 times longer than head width; ♂ paramere broad (Fig. 97) *kenyae*

– Antennal flagellum not more than 1.25 times longer than head width; ♂ paramere narrow (Fig. 98) *etiennei*

Pseudoeriopsylla nyasae Newstead

(Figs 32, 92, 109)

Pseudoeriopsylla nyasae Newstead, 1911: 105; Yang & Li, 1984*b*: 369; White & Hodkinson, 1985: 162. Syntypes ♀ and larvae, MALAWI: on *Ficus* sp. (larvae BMNH, ♀ not traced) [examined].

Macrohomotoma nyasae (Newstead) Crawford, 1914: 63; 1920: 354; 1925*a*: 36; Enderlein, 1921: 119.

Hostplant. Subsect. *Chlamydodorae*, *Ficus thonningii* (some records as *F. petersii*). The type series was recorded from 'Kachire' which, according to Binns (1972), is a vernacular name used for *Ficus natalensis*, *F. thonningii*, and *F. scassellatii* (=*F. kirkii*).

Recorded distribution. Malawi, Mozambique.

Material examined

Adults and larvae from: **South Africa** (Tvl), on '*F. petersii*'; Malawi, Tanzania, Zaire.

Pseudoeriopsylla laingi sp. n.

(Figs 20. 21, 33, 61, 93, 94, 110)

Description. Antennal flagellum 1.46–1.70 (♂) and 1.19–1.28 (♀) times longer than head width; rhinaria present over most of surface of 1st flagellomere, 3 subapically on 2nd (Fig. 33), 0–2 subapically on 3rd, 1–2 subapically on 4th, none on 5th, 3–4 subapically on 6th, 2 subapically on 7th, 8th bearing 2 subequal setae apically; ultimate rostral segment 2.5–3.0 times longer than wide.

Forewing 2.20–2.45 times longer than wide, pattern dimorphic (as in Figs 61, 62); m_1 cell value

1.5–1.7, cu_1 cell value 0.7–1.1 (higher in W. African populations).

♂ paramere (Fig. 93) broad in profile, rounded apically, inner surface with 2 subapical tubercles, the anterior one truncate apically; apical segment of aedeagus as in Fig. 94.

♀ proctiger 1.20–1.27 times longer than head width.

Measurements (6 ♂, 5 ♀). Maximum width of head, ♂ 0.97–1.12, ♀ 1.06–1.20; length of antennal flagellum, ♂ 1.42–1.88, ♀ 1.30–1.42; length of ultimate rostral segment, ♂ 0.16–0.19, ♀ 0.15–0.20; length of forewing, ♂ 4.12–5.95, ♀ 4.80–6.68; length of hind tibia, ♂ 0.88–1.10, ♀ 0.92–1.10; length of ♀ proctiger, 1.28–1.52.

Larva. Dorsal and ventral caudal plates and circum-anal pore ring as in Fig. 110.

HOSTPLANT. Subsect. *Chlamydodorae*; *Ficus thonningii*, *F. natalensis* .

Holotype ♂, **Angola**: Chianga, 12.iv.1975, on *Ficus thonningii* (*van Harten*) (BMNH); dry-mounted.

Paratypes. **Angola**: 5 ♂, 8 ♀, larvae, same data as holotype; 1 ♀. i.1971 (*van Harten*); 1 ♀, 21–24.iii.1972 (*Hollis*); 2 ♂, 2 ♀, 27.viii.1973 (*Amorim*). **Kenya**: 2 ♂, 5 ♀, larvae, Nairobi, Chiromo, ix.1970, *Ficus* sp. (*Schmutterer*). **Uganda**: 1 ♂, Kampala, 'Makawkawe', 9.iii.1925 (*Hamwer*); 1 ♂, 3 ♀, larvae, Kawanda Res. Stn, 10.vi.1988, on roots of *Ficus natalensis* (*Polaszek*). Cameroon: 1 ♀, Bamenda, c̄ 5000′, 26-31.i.1957, yellow tray; 1 ♂, ii.1957 (*Eastop*). **Nigeria**: 1 ♂, 5 ♀, Lagos (*Brown*). **Sierra Leone**: larvae, Freetown, 27.viii.1924; 1 ♂, 2 ♀, 20.i.1927; 2 ♂, 2 ♀, Newton, 10.xi.1928, *Ficus sp.* (*Hargreaves*). **Guinea**: 1 ♂, Kindia, Fulaya, 4.ii.1952, 'Goyavier' (*Balachowsky*). **Senegal**: larvae, Djibelor, 15.xii.1981, *Ficus* sp.; 1 ♂, 1 ♀, 14.iii.1982, beating trees (*Etienne*). (BMNH; MNHN).

COMMENTS. This species appears to be close to *medleri* and *nyasae* and replaces the latter on the same host from Kenya northwards and westwards.

Dr A. Polaszek (pers. comm.) has reared specimens of *Psyllaephagus secus* Prinsloo (Chalcidoidea: Encyrtidae) and *Dilyta* sp. (Cynipoidea: Charipidae) from 5th instar larvae of the population from Kawanda Res. Stn, Uganda, mentioned in the above paratype series.

Pseudoeriopsylla medleri sp. n.

(Figs 34, 95)

DESCRIPTION. Antennal flagellum 1.32–1.41 (♂) and 1.14–1.16 (♀) times longer than head width; rhinaria present over most of surface of 1st flagellomere (Fig. 34), 6 subapically on 2nd, 1–3 subapically on 3rd, 1–2 subapically on 4th, 1 apically on 5th, 3 subapically on 6th, 2 apically on 7th, 8th bearing 2 subequal setae apically; ultimate rostral segment 2.3–3.1 times longer than wide.

Forewing pattern similar to that in Fig. 62, 2.18–2.34 times longer than wide, m_1 cell value 1.6–1.9, cu_1 cell value 1.13–1.19; hindwing 0.5 times as long as forewing.

♂ paramere (Fig. 95) narrow in profile, rounded apically, inner surface with 2 subapical tubercles, the anterior one hook-like.

♀ proctiger 1.2 times longer than head width.

Measurements (4 ♂, 2 ♀). Maximum width of head, ♂ 0.91–0.98, ♀ 1.02; length of antennal flagellum, ♂ 1.20–1.38, ♀ 1.16–1.18; length of ultimate rostral segment, ♂ 0.12–0.14, ♀ 0.13; length of forewing, ♂ 4.28–4.64, ♀ 4.72–4.76; length of hind tibia, ♂ and ♀ 0.86–0.88; length of ♀ proctiger, 1.20–1.22.

Larva and hostplant unknown.

Holotype ♂, **Nigeria**: S. E. State, Oban, 7.iv.1975 (*Medler*) (BMNH); dry-mounted.

Paratypes. **Nigeria**: 13 ♂, 4 ♀, same data as holotype (BMNH); slide- and dry- mounted.

COMMENTS. *P. medleri* appears to be close to *laingi* but is distinguished by the structure of the ♂ paramere.

Pseudoeriopsylla carvalhoi sp. n.

(Figs 35, 96)

DESCRIPTION. Antennal flagellum 1.35–1.67 (♂) and 1.14–1.41 (♀) times longer than head width; rhinaria present over most of surfaces of flagellomeres 1–5 (Fig. 35), 4–6 subapically on 6th, 2 apically on 7th, 8th with 2 subequal setae apically; ultimate rostral segment 3.5–4.0 times longer than wide.

Forewing pattern similar to that in Fig. 61, often with hind margin also brown, 2.20–2.41 times longer than wide, m_1 cell value 1.7, cu_1 cell value 0.9; hindwing 0.54–0.58 times as long as forewing.

♂ paramere (Fig. 96) with obliquely truncate apex, inner surface with 1 hook-like anterodorsal and 1 simple posterodorsal tubercle.

♀ proctiger long, 1.42–1.77 times longer than head width.

Measurements (2 ♂, 2 ♀). Maximum width of head, ♂ 0.90–0.92, ♀ 1.00–1.06; length of antennal flagellum, ♂ 1.22–1.54, ♀ 1.14–1.50; length of ultimate rostral segment, ♂ 0.15–0.16, ♀ 0.16–0.17; length of forewing, ♂ 3.80–3.96, ♀ 4.42–4.72; length of hind tibia, ♂ 0.82–1.02, ♀ 0.82–1.14; length of ♀ proctiger, 1.42–1.88.

Larva unknown.

HOSTPLANT. Subsect. *Caulocarpae*, *Ficus ovata* (=*F. brachypoda*).

Holotype ♂, **Angola**: Duque de Braganca Falls, 11–12.iii.1972, *Ficus brachypoda* (*Hollis*) (BMNH); dry-mounted.

Paratypes. **Angola**: 4 ♂, 5 ♀, same data as holotype (BMNH). **Zaire**: 6 ♂, 4 ♀, P. N. G., Miss. H. De Saeger, Iso II/9, 17.vi.1952 (3638); 3 ♂, 4 ♀, Mt Tungu (S), 9.vi.1952 (*De Saeger* 3606) (MRAC; BMNH). **Nigeria**: 1 ♀, Zaria, Samaru, 26.iii.1966, m.v. trap (*Deeming*) (BMNH). Slide- and dry-mounted.

COMMENTS. *P. carvalhoi* differs from the other known species of the genus in the extreme proliferation of rhinaria on the antennal flagellum and the elongate female proctiger. The host species also belongs to a different subsection of Sect. *Galoglychia*.

Pseudoeriopsylla kenyae sp. n.

(Figs 36, 97, 111)

DESCRIPTION. Antennal flagellum 1.53–1.57 (♂) and 1.38 (♀) times longer than head width; a single apical rhinarium present on 1st flagellomere, 1 on 2nd (Fig. 36), 0–1 on 3rd, 1–2 on 4th, none on 5th, 1–2 on 6th, a double rhinarium on 7th, 8th with 2 subequal setae apically; ultimate rostral segment 3.0–3.6 times longer than wide.

Forewing pattern as in Fig. 61, 2.25–2.36 times longer than wide, m_1 cell value 1.7, cu_1 cell value 1.2; hindwing 0.55–0.57 times as long as forewing.

♂ paramere (Fig. 97) broad in profile, with rounded apex, inner surface with 1 subapical anterior tubercle and 1 posteroapical tubercle.

♀ proctiger 1.2 times longer than head width.

Measurements (2 ♂, 1 ♀). Maximum width of head, ♂ 1.08–1.10, ♀ 1.10; length of antennal flagellum, ♂ 1.68–1.70, ♀ 1.52; length of ultimate rostral segment, ♂ 0.18–0.19, ♀ 0.18; length of forewing, ♂ 4.72–4.80, ♀ 5.13; length of hind tibia, ♂ 1.14–1.20, ♀ 1.12; length of ♀ proctiger, 1.32.

Larva. Dorsal and ventral caudal plates and circum-anal pore ring as in Fig. 111.

HOSTPLANT. *Ficus sp.*

Holotype ♂, **Kenya**: L. Naivasha, W. shore road, c̄ 6,200′, 21–22.vi.1974, *Ficus* sp. (*Hollis*) (BMNH); dry-mounted.

Paratypes. **Kenya**: 1 ♂, 3 ♀, larvae, same data as holotype; 1 ♂, 2 ♀, Nairobi, Karen, c̄ 5,500′, 7.vii.1974, *Clausena anisata* (*Hollis*) (BMNH); slide- and dry- mounted.

COMMENTS. *P. kenyae* and *etiennei* differ from other species of the genus in the lack of multiple rhinaria on the first two flagellomeres. They differ from one another in the relative lengths of the antennal flagellum and the form of the male paramere.

Pseudoeriopsylla etiennei sp. n.

(Figs 37, 62, 98, 112)

DESCRIPTION. Antennal flagellum 1.17–1.24 (♂) and 1.0 (♀) times longer than head width; a single apical rhinarium on 1st flagellomere, 1 on 2nd (Fig. 37), none on 3rd, 1 on 4th, none on 5th, 1 on 6th, a double rhinarium apically on 7th, 8th with 2 subequal setae apically; ultimate rostral segment short, 2.0 times longer than wide.

Forewing (Fig. 62) 2.15–2.31 times longer than wide, m_1 cell value 1.9, cu_1 cell value 1.05; hindwing 0.5 times as long as forewing.

♂ paramere (Fig. 98) narrow in profile, with rounded apex, inner surface with a bifid tubercle anteroapically.

♀ proctiger 1.2 times longer than head width.

Measurements (2 ♂, 2 ♀). Maximum width of head, ♂ 1.08–1.16, ♀ 1.20–1.24; length of antennal flagellum, ♂ 1.34–1.36, ♀ 1.20–1.24; length of ultimate rostral segment, ♂ and ♀, 0.12; length of forewing, ♂ 4.81–4.89, ♀ 5.09–5.30; length of hind tibia, ♂ 0.94, ♀ 0.96–1.02; length of ♀ proctiger, 1.4–1.5.

Larva. Dorsal and ventral caudal plates and circum-anal pore ring as in Fig. 112.

HOSTPLANT. *Ficus* sp.

Holotype ♂, **Senegal**: Kamobeul-Essyhl, 27.xi.1982, *Ficus* sp. (*Etienne*) (MNHN); slide-mounted.

Paratypes. **Senegal**: 1 ♂, 2 ♀, larvae, same data as holotype (BMNH); slide-mounted.

HOMOTOMINAE Heslop-Harrison

Homotomini Heslop-Harrison, 1958: 577, in part.
Homotominae Bekker-Migdisova, 1973: 101, in part; White & Hodkinson, 1985: 272.
Carsidarinae Yang, 1984: 168, in part.

DIAGNOSIS. Antennal flagellum thickened and densely setose; in forewing costal break present or at least indicated by a weakly sclerotised area of the cuticle in the break area, pterostigma absent.

The subfamily comprises two tribes, the Homotomini with an Old World distribution, and the Synozini with a New World distribution.

HOMOTOMINI Heslop-Harrison

Homotomini Heslop-Harrison, 1958: 578, in part; Loginova, 1964*b*: 54.

Dynopsyllini Bekker-Migdisova, 1973: 102, in part.

Psausiini Bekker-Migdisova, 1973: 102. Type genus: *Psausia* Enderlein. **Syn. n.**

Diagnosis. In forewing $M+Cu$ stem present, sometimes immediately adjacent to $R+M+Cu$ stem and R stem, radular area present in cell m_2; hind tibia with only part of apical spur ring thickened; ♂ proctiger bipartite, basal segment of aedeagus strongly expanded in apical half.

A single, Old World genus, *Homotoma*, is recognised, with hostplants in *Ficus* (*Urostigma*) sects *Urostigma*, *Conosycea* and *Galoglychia*, and *Ficus* (*Ficus*) sects *Ficus* and *Rhizocladus*.

HOMOTOMA Guérin-Méneville

Homotoma Guérin-Méneville, 1844: 376; Flor, 1861: 337, 412; Löw, 1879: 607; Kieffer, 1905: 161; Kuwayama, 1908: 181; Crawford, 1911: 483; 1915: 262; 1919: 162; Aulmann, 1913: 35; Enderlein, 1921: 118; Boselli, 1929: 218; Kuwayama, 1931: 124; Haupt, 1935: 252; Schaefer, 1949: 56; Ramirez Gomez, 1956: 65; Heslop-Harrison, 1958: 578; Dobreanu & Manolache, 1962: 364; Miyatake, 1975: 17; Braza & Calilung, 1981: 353; Yang & Li, 1981: 77, 84; 1984*a*: 201, 217; Hodkinson, 1983: 349; 1986: 312. Type species: '*Psylla ficus*' Linnaeus, by original designationand monotypy.

Anisostropha Foerster, 1848: 92; Frauenfeld, 1867: 804; Meyer-Dür, 1871: 403. Type species: *Chermes ficus* Linnaeus, by monotypy. [Objective synonym of *Homotoma*.]

Psausia Enderlein, 1914: 232; 1921: 120; Heslop-Harrison, 1949: 376, 378; 1958: 578; Mathur, 1975: 155; Yang & Li, 1981: 78, 85; 1984*a*: 217; Hodkinson, 1983: 349; 1986: 312; Yang, 1984: 168; Kandasamy, 1987: 72. Type species: *Homotoma radiata* Kuwayama, by original designation and monotypy. [Synonymised with *Homotoma* by Kuwayama, 1931: 124.]

Labobrachia Enderlein, 1921: 119; Heslop-Harrison, 1949: 376, 378; 1958: 578; Hodkinson, 1983: 349; 1986: 312; Yang & Li, 1984*a*: 201, 217. Type species: *Homotoma pacifica* Crawford, by original designation and monotypy. [Synonymised with *Homotoma* by Hodkinson, 1983: 349.]

Metapsausia Enderlein, 1921: 120; Heslop-Harrison, 1949: 376, 378; 1958: 578; Yang & Li, 1981: 79, 85; 1984*a*: 202; Hodkinson, 1983: 349; 1986: 312. Type species: *Homotoma bakeri* Crawford, by original designation. [Synonymised with *Homotoma* by Hodkinson, 1983: 349.]

Caenohomotoma Yang & Li, 1981: 78, 85. Type species: *Caenohomotoma spiraea* Yang & Li, by original designation. [Synonymised with *Homotoma* by Hodkinson, 1986: 312.]

Austrohomotoma Yang & Li, 1981: 78, 85. Type species: *Homotoma gressitti* Miyatake, by monotypy. [Synonymised with *Homotoma* by Hodkinson, 1986: 312.]

Harrisonella Yang & Li, 1981: 78, 85. Type species: *Homotoma distincta* Crawford, by monotypy. [Synonymised with *Homotoma* by Hodkinson, 1986: 312.]

Heterohomotoma Yang & Li, 1981: 78, 85. No type species designated. Nomen nudum.

Labobracha Yang & Li, 1984*a*: 217. [Misspelling.]

Psausia Yang & Li, 1984*a*: 217 (nec Enderlein). Type species: *Homotoma distincta* Crawford, by original designation and monotypy. [Homonym of *Psausia* Enderlein, objective synonym of *Harrisonella*, and syn. n.]

Australohomotoma Hodkinson, 1986: 312. [Misspelling.]

Description. Medium- to large-sized psyllids, up to 6.5 mm. Integument of head and thorax densely covered with long setae. Head (Figs 22–24), from above, about as wide as mesoscutum; vertex from shallowly to deeply concave, anterior margin rounded and often deeply incised by median suture, lateral margins rounded or obtuseangular, occipital margin angular, median ocellus just visible from above, lateral ocelli on weak swellings, anterolateral tubercles absent, antennal sockets enlarged and giving head a cleft appearance; antennal flagellum (Figs 38–40) swollen and densely hirsute, rounded or flattened in cross-section, a single apical rhinarium present on flagellomeres 2, 4, 6 and 7, flagellomere 8 very reduced and less than half length of 7; genae normally slightly swollen ventrally, small genal cones rarely developed; ultimate rostral segment short, up to twice as long as wide.

Thorax, in profile, from weakly to strongly arched; pronotum broadly visible from above, sometimes with a pair of anteromedial and a pair of anterolateral projections. Forewing (Figs 63–73) of variable shape, veins bearing long setae, $C+Sc$ usually thickened basally, costal break present or indicated by weakening of cuticle in break area, M stem often partially fused with basal part of Rs and M_{1+2} and sometimes partially fused with apical part of Rs, apex of M_{1+2} reaching wing margin anterior to wing apex or at wing apex, *Cu* stem short or long, cells m_1 and cu_1 of very variable shape, apex of claval suture adjacent to or shortly distant from apex of Cu_{1b}, radular areas from diffuse to sharply defined but always present in cell m_2; basal spine of hind tibia rarely present, apical spurs arranged 0 + 4–7; hind basitarsus with 2 or rarely 1 apical spurs.

♂ proctiger bipartite, lateral lobes well-developed and with inner apical lobes; basal segment of aedeagus swollen in apical half, apical segment without ventral spiniform processes apically (Figs 99–104).

♀ terminalia conical, circum-anal pore ring simple.

Larva. Body form variable, wider than long in *H. ficus,* longer than wide in other known species. Antennae short, flagellum not subdivided except for flagellomeres 7 and 8; dorsal thoracic sclerites differentiated, separate; humeral lobes well-developed in *ficus* but not in other known species; body surface covered with lanceolate setae, in *ficus* these are mounted on elongate tubercles (White & Hodkinson, 1985), in other species these tubercles are smaller or absent; pointed sectasetae present marginally; anus ventral and with a large, medially constricted circum-anal pore ring. [Larvae are described or figured for *distincta* (Heslop-Harrison, 1949), *ficus* (Boselli, 1929), *galbvittata* (Yang & Li, 1984*a*), *indica* (Mathur, 1975), *maculata* (Yang, 1984), *radiata* (Fang & Yang, 1986) and *wulinensis* (Yang, 1984).]

COMMENTS. The synonymy of *Homotoma* has become confused since Enderlein erected the genera *Psausia, Metapsausia* and *Labobrachia,* based on type species previously described in *Homotoma.* Kuwayama (1931) synonymised *Psausia* with *Homotoma* but Heslop-Harrison (1949) recognised all four genera as distinct, and Mathur (1975) and Yang (1984) regarded *Psausia* as distinct. Miyatake (1975) included the type species of Enderlein's genera in his treatment of *Homotoma,* but it is likely that he was following Kuwayama in the synonymy of *Psausia* and was unaware of Enderlein's (1921) paper erecting *Metapsausia* and *Labobrachia.* However, Hodkinson (1983) considered that Miyatake had effectively synonymised Enderlein's genera with *Homotoma.* This confusion was further compounded by Yang & Li (1981, 1984*a*) when they erected a further five genus-group names in the *Homotoma* complex, including one that is both a homonym and an objective synonym, and another that is a nomen nudum. Hodkinson (1986) considered Yang & Li's names to be invalid and further suggested that there was no good reason for splitting *Homotoma.*

Enderlein (1914, 1921) based his genera on venational characters and Heslop-Harrison supported these arguments, adding further structural characters to support the separation of *Psausia.* The various forewing types may be characterised as follows:

1 M_{1+2} reaching wing margin at apex of wing (Figs 64, 65) [Primitive condition for Carsidaridae + Homotomidae] .... **'Labobrachia' type**

– M_{1+2} reaching wing margin anterior to wing apex (Figs 63, 66–70) 2

2 $M+Cu$ stem entirely separated from *R* stem, *M* stem entirely separated from *Rs*, apex of claval suture adjacent or close to apex of Cu_{1b}, radular areas diffuse (Figs 63, 66–70) .... **'Homotoma' type**

– $M+Cu$ stem partly or entirely fused with *R* stem, *M* stem partly or entirely fused with *Rs*, apex of claval suture distant from apex of Cu_{1b}, radular areas defined (Figs 71–73) 3

3 *M* stem partly fused with *Rs*, M_{1+2} entirely separate from *Rs* (Figs 71, 72) .... **'Psausia' type**

– *M* stem almost or completely fused with *Rs*, M_{1+2} completely fused with *Rs* (Fig. 73) **'Metapsausia' type**

Assuming the 'Labobrachia' type to be the primitive forewing condition, transformation series can be defined through the 'Homotoma' type to the Afrotropical species (Figs 63, 66–70) in one series, and to 'Psausia' types (Figs 71, 72) and 'Metapsausia' types (Fig. 73) in another series. It is even possible to derive the condition found in the South American genus *Synoza* (Fig. 74) from the 'Psausia' type. One could reasonably argue that the 'Psausia' type was uniquely derived from the 'Homotoma' type, but the 'Metapsausia' type could have arisen several times from the 'Psausia' type.

The supporting morphological characters used by Heslop-Harrison (1949) to separate *Psausia* from *Homotoma* are unlikely to be useful but the pronotum of those species with the 'Psausia' and 'Metapsausia' types of forewing, that we have examined, have anterodorsal and anterolateral projections. In those species with the 'Labobrachia' and 'Homotoma' types the pronotum is a more simple, strap-like tergite. The male genitalia of all specimens examined show no significant differences that would support Enderlein's generic concepts. We are, therefore, following Hodkinson (1983, 1986) in recognising a single genus, *Homotoma.*

Thirty-one species are currently recognised, including four newly described below from the Afrotropical Region. All these species are listed below on a regional basis; a key is not provided as many of the descriptions are inadequate and we have been unable to obtain type material.

Palaearctic Region

Homotoma ficus (Linnaeus)

'Les faux pucerons du figuier' Reaumur, 1737: 351.
'La Psylle du figuier' Geoffroy, 1762: 484.
Chermes ficus Linnaeus, 1758: 455; Fabricius, 1794: 223.
Psylla ficus (Linnaeus) Tigny, 1802: 165; Latreille, 1804: 379; Audinet-Serville, 1825: 229; Dufour, 1833: 232; Amyot & Serville, 1843: 593.
Homotoma ficus (Linnaeus) Guérin-Méneville, 1844: 376; Flor, 1861: 413; Girard, 1876: 132; Bolivar & Chicote, 1879: 185; Ferrari, 1888: 76; Lambertie, 1901: 221; Dominique, 1902: 225; Ragusa, 1907: 237; Oshanin, 1907: 369; 1912: 128; Aulmann, 1913: 35; Horvath, 1918: 331; Boselli, 1929: 218; Bodenheimer & Theodor, 1929: 35; Silvestri, 1934: 382; Balachowski & Mesnil, 1935: 586; Haupt, 1935: 252; Heslop-Harrison, 1946: 37; 1949: 375; Schaefer, 1949: 56; Vondráček, 1951: 26; Tamanini, 1955: 11; 1966: 105; Ramirez Gomez, 1956: 66; Wagner & Franz, 1961: 170; Klimaszewski, 1961: 115; 1973: 230; Dobreanu & Manolache, 1962: 364; Loginova, 1964*a*: 472; Hodkinson & White, 1979: 77; White & Hodkinson, 1982: 45; Halperin et al., 1982: 34; Burckhardt, 1983: 64; Andrianova & Klimaszewski, 1983: 42; Yang & Li, 1984*a*: 201, 217.
Anisostropha ficus (Linnaeus) Foerster, 1848: 92; Frauenfeld, 1867: 801; Meyer-Dür, 1871: 403.

HOSTPLANT. *Ficus carica*; ((*Ficus*) sect. *Ficus*).

RECORDED DISTRIBUTION. Widespread in Mediterranean Basin, also from Albania, Austria, France, Iran, U. S. S. R. (Caucasus and Crimea), (England and North America, introduced).

MATERIAL EXAMINED
Numerous adults and larvae from various localities in the **Mediterranean Basin, England** (BMNH).

Homotoma viridis Klimaszewski

Homotoma viridis Klimaszewski, 1961: 114; 1973: 231; 1975: 18, 30, 37; Tamanini, 1966: 105; Loginova, 1968: 326; Halperin et al., 1982: 35; Burckhardt, 1983: 64; 1988: 40; Andrianova & Klimaszewski, 1983: 43; Yang & Li, 1984*a*: 201, 217. Holotype ♂, ALBANIA (IZPAN) [not examined].

HOSTPLANT. *Ficus carica*.

RECORDED DISTRIBUTION. Bulgaria, Israel, Italy, Spain, Tunisia, Turkey, U. S. S. R. (Caucasus and Crimea), Yugoslavia.

COMMENTS. The morphological differentiation of this species from *H. ficus* has a weak basis. Furthermore, both have been collected at the same time and locality, from the same host individual, and there is no biological evidence that the species are distinct.

Afrotropical Region

The four new species described below are the first records of the genus in this region. They are distinguished by their wing shape, venation and coloration and by the structure of the antennal flagellum.

Homotoma angolensis sp. n.

(Figs 22, 23, 39, 63, 99, 100)

DESCRIPTION. Dark brown psyllids with a beetle-like appearance, 3.0–3.5 mm long. Head (Figs 22, 23) with vertex flat, anterior margin weakly incised by median suture; antennal flagellum 1.9–2.0 (♂) and 1.6–1.8 (♀) times longer than head width, laterally flattened and expanded (Fig. 39), 1st flagellomere almost 3 times as long as wide, 8th flagellomere with one long pointed seta and one very short and truncate seta apically; genae with weak, conical swellings ventrally; ultimate rostral segment 2.0–2.5 times longer than wide.

Thorax weakly arched, pronotum without anterior projections; forewing (Fig. 63) coriaceous, obovate with rounded apex, 2.2–2.4 times longer than wide, veins densely clothed with long sinuous setae, *M* stem and branches entirely separated from *R* stem and branches, *M* stem short, m_1 value 2.0–2.4, *Cu* stem about as long as *M*+*Cu* stem, cu_1 value about 0.9, apex of claval suture adjacent to apex of Cu_{1b}, radular areas diffuse; hindwing relatively long, 0.85 times as long as forewing, *M* unbranched, *Cu* branched apically; basal spine of hind tibia absent, apical spurs arranged 0 + 5; hind tibia with 2 apical spurs.

♂ proctiger (Fig. 99) with lateral lobes of basal segment well-developed, anal tube of moderate length; aedeagus (Fig. 99) with basal segment weakly expanded in apical half; inner surface of paramere (Fig. 100) with a well-developed anteromedial pointed tubercle and a diagonal ridge lying anteromedially to posteroapically.

♀ terminalia short, conical; proctiger 1.1 times longer than head width.

Measurements (5 ♂, 4 ♀). Maximum width of head, ♂ 0.62–0.67, ♀ 0.70–0.74; length of antennal flagellum, ♂ 1.20–1.36, ♀ 1.18–1.26; length of ultimate rostral segment, ♂ 0.80–0.10, ♀ 0.10–0.11; forewing length, ♂ 2.44–2.52, ♀ 2.96–3.04; length of hind tibia, ♂ 0.56–0.60, ♀ 0.60–0.64; length of ♀ proctiger, 0.76–0.80.

Larva unknown.

Hostplant. Adults collected from *Ficus thonningii* ((*Urostigma*) sect. *Galoglychia* subsect. *Chlamydodorae*); possibly also *F. mutandifolia.*

Holotype ♂, **Angola**: Chianga, 21–24.iii.1972, *Ficus thonningii* (*Hollis*) (BMNH); dry-mounted.

Paratypes. **Angola**: 13 ♂, 7 ♀, same data as holotype; 6 ♀, 7.x.1971; 1♂, 14.i.1975, *Ficus mutandifolia* (*van Harten*); 11 ♂, 3 ♀, 7 mls W. Gabela, 16–18.iii.1972, general sweeping; 1 ♀, at light (*Hollis*). (BMNH); dry- and slide-mounted.

Comments. This species is recognised by the distinctive form, venation and chaetotaxy of the forewing. The obovate shape, and proximal branching of *M* stem and *Cu* stem of the wing are considered to be primitive features but the coriaceous nature of the membrane is unique within the genus. The structure of the antennal flagellum is highly derived in that it is short, strongly laterally flattened and with expanded flagellomeres. No obvious close relatives are known.

Homotoma bamendae sp. n.

(Figs 24, 38, 67, 101)

Description. (Only slide-mounted material available for study.) Antennal flagellum 1.73–1.97 times longer than head width, flagellomeres laterally flattened and moderately expanded (Fig. 38), 1st flagellomere 4.8 times longer than wide, 8th flagellomere with one long pointed seta and one short truncate seta apically. Vertex flat, anterior margin very weakly incised by median suture; genae produced into long thin processes ventrally (Fig. 24); ultimate rostral segment very short, 1.75 times longer than wide.

Thorax weakly arched, pronotum without anterior tubercles. Forewing obovate with subacute apex, 2.4–2.5 times longer than wide, membrane hyaline with pattern as in Fig. 67; veins bearing long straight setae, *M* stem and branches entirely separated from *R* stem and branches, *M* stem long, m_1 cell value about 1.0, *Cu* stem short, cu_1 cell value 1.6, apex of claval suture adjacent to apex of Cu_{1b}, radular areas small and poorly defined; hindwing 0.65 times as long as forewing, *M* unbranched, *Cu* apparently unbranched; basal spine of hind tibia absent, apical spurs arranged 0 + 4; hind basitarsus with 2 apical spurs.

♂ proctiger (Fig. 101) with moderately developed lateral lobes, anal tube elongate; aedeagus (Fig. 101) with basal segment expanded in apical half; inner surface of paramere with 2 anteromedial tubercles.

♀ terminalia short, conical, proctiger about as long as head width. Measurements (1 ♂, 1 ♀). Maximum width of head, ♂ 0.60, ♀ 0.68; length of antennal flagellum, ♂ 1.04, ♀ 1.34; length of ultimate rostral segment, ♂ and ♀ 0.07; length of forewing, ♂ 2.48, ♀ 3.12; length of hind tibia, ♂ 0.52, ♀ 0.62; length of ♀ proctiger, 0.71.

Larva and hostplant unknown.

Holotype ♂, **Cameroon**: Bamenda, 25–31.i.1957, yellow trays (*Eastop*) (BMNH); slide-mounted.

Paratype. 1 ♀, same locality as holotype, 21–24.i.1957 (BMNH); slide-mounted.

Comments. The forewing venation of this species suggests a close relationship to *H. ficus* but the thin, elongate genal processes of *H. bamendae* appear to be unique in the genus.

Homotoma chlamydodora sp. n.

(Figs 68, 69, 103, 104)

Description. Overall length up to 5.0 mm. Vertex concave, anterior margin deeply incised by medial suture. Antennal flagellum 2.52–3.23 (♂) and 2.35–2.83 (♀) times longer than head width, circular in cross-section, 1st flagellomere 5.0–7.0 times longer than wide, 8th flagellomere with one long pointed seta and one short truncate seta apically; genae slightly swollen ventrally; ultimate rostral segment short, 1.5–2.0 times longer than wide.

Thorax weakly arched, pronotum broadly visible from above and without anterior tubercles. Forewing elongate-oval, with subacute apex, membrane hyaline and with a dimorphic pattern as in Figs 68, 69, 2.75–3.15 times longer than wide; veins bearing long straight setae, *M* stem and branches entirely separate from *R* stem and branches, *M* stem long, m_1 cell value 0.9, *Cu* stem about as long as *M*+*Cu* stem, cu_1 cell elongate with a value of about 2.0, apex of claval suture adjacent to apex of Cu_{1b}, radular areas diffuse; hindwing 0.75 times as long as forewing, *M* unbranched, *Cu* branching apically; hind tibia without a basal spine, apical spurs arranged 0 + 5; hind basitarsus with a single apical spur.

♂ proctiger (Fig. 103) with moderately developed lateral lobes and short anal tube; aedeagus as in Fig. 103; paramere (Fig. 104) thumb-shaped, inner surface with a single tubercle anteriorly in apical third and a posteroapical tubercle.

♀ terminalia short, conical; proctiger 0.9–1.1 times as long as head width.

Measurements (10 ♂, 9 ♀). Maximum width of head, ♂ 0.68–0.88, ♀ 0.74–0.88; length of antennal flagellum, ♂ 1.88–2.52, ♀ 1.74–2.32; length of ultimate rostral segment, ♂ 0.06–0.09, ♀ 0.07–0.08; length of forewing, ♂ 3.0–3.62, ♀ 3.08–3.88; length of hind tibia, ♂ 0.58–0.82, ♀ 0.58–0.84; length of ♀ proctiger, 0.68–0.92.

Larva unknown.

HOSTPLANTS. Adults collected from *Ficus natalensis* and *F. thonningi*; ((*Urostigma*) sect. *Galoglychia* subsect. *Chlamydodorae*).

Holotype ♂, **Tanzania**: Arusha NP, Ngurdoto crater rim, c. 5000′, 8.vi.1974, *Ficus natalensis* (*Hollis*) (BMNH); dry-mounted.

Paratypes. **Tanzania**: 3 ♂, 3 ♀, same data as holotype. **South Africa**: 2 ♂, 3 ♀, Pondoland, Port St John, ix–xii.1923 (*Turner*); 8♂, 12♀, Natal, Umtentweni, 14–17.x.1969, *Ficus petersii* (*Capener*). **Kenya**: 1 ♂, 1 ♀, Muguga, vii–viii.1954, trapped (*Eastop*); 1 ♂, 19.xi.1969 (*Brown*); 1 ♂, 3 ♀, Limuru, iv.1955 (*Thomas*); 1 ♂, Kakamega, 1500m, 4.ii.1977 (*Deharveng*). **Uganda**: 6 ♂, 2 ♀, Kampala, 17.iii.1923, on *Ficus* leaves (*Hargreaves*). **Angola**: 1 ♀, Chianga, 7.x.1971, *Ficus thonningii* (*van Harten*). **Burundi**: 2 ♂, 2 ♀, Gitega, 20.x.1980 (*Pointel*); 4 ♂, Kisozi, 6–20.iii.1981; 8 ♀, 5–17.iv.1981; 1 ♂, 1–15.v.1981; 2 ♂, 8–21.viii.1981; 10 ♂, 9 ♀, 22.iii.–4.ix.1981; 4 ♂, 3 ♀, 6–18.ix.1981; 4 ♂, 3♀, 10.ix.–2.x.1981; 10 ♂, 18 ♀, 3–16.x.1981; 4 ♂, 3 ♀, 17–30.x.1981 (*Aubrique*). **Cameroon**: 10 ♂, 12 ♀, Bamenda, 24.i.–6.ii.1957, yellow trays (*Eastop*). **Nigeria**: 1 ♂, K. State, 20 mls W. Lokoja, 21.iii.1970 (*Medler*). (BMNH; MNHN; NCI; MHN); dry- and slide-mounted, stored in 90% ethanol.

COMMENTS. *H. chlamydodora* may be recognised by the venation and pattern of the forewing and the single apical spur on the hind basitarsus. Probably it is most closely related to *H. bamendae* but has a more derived condition of the cubital vein of the forewing and the antennae have primitive, uncompressed flagellomeres.

Homotoma eastopi sp. n.

(Figs 40, 70, 102)

DESCRIPTION. (Only slide-mounted material available for study.) Antennal flagellum 2.67 times longer than head width, flagellomeres flat and strongly expanded (Fig. 40), 1st flagellomere not more than twice as long as wide, 8th flagellomere with one long pointed seta and one very short truncate seta apically; vertex deeply divided by median suture; genae with very small, conical swellings ventrally; ultimate rostral segment short, 2.0 times longer than wide.

Thorax weakly arched, pronotum broadly visible from above and without anterior projections. Forewing narrow-elongate, with acute apex, 3.1–3.7 times longer than wide, membrane hyaline with pattern as in Fig. 70; veins bearing long straight setae, *M* stem and branches entirely separate from *R* stem and branches, m_1 cell value 0.9, *Cu* stem about as long as *M+Cu* stem but 3–4 times longer than Cu_{1b}, cu_1 cell very elongate with a value of about 15.0, apex of claval suture close but not immediately adjacent to apex of Cu_{1b}, radular areas narrow-elongate and poorly defined; hindwing 0.75 times as long as forewing, *M* unbranched, *Cu* branching distally; basal spine of hind tibiia absent, apical spurs arranged 0 + 6; hind basitarsus with 2 apical spurs.

♂ proctiger (Fig. 102) with lobes developed laterodorsally, anal tube long; aedeagus as in Fig. 102; paramere of similar profile to that of *H. angolensis* [inner surface not visible in holotype].

♀ terminalia conical, proctiger 1.27 times longer than head width.

Measurements (1 ♂, 1 ♀). Maximum width of head, ♂ 0.64, ♀ 0.66; length of antennal flagellum, ♂ 1.76; length of ultimate rostral segment, ♂ 0.09, ♀ 0.10; length of forewing, ♂ 3.1, ♀ 3.72; length of hind tibia, ♂ and ♀, 0.74; length of ♀ proctiger, 0.84.

Larva and hostplant unknown.

Holotype ♂, **Cameroon**: Bamenda, 5000′, 25–31.i.1957, yellow pan trap (*Eastop*) (BMNH); slide-mounted.

Paratype. 1 ♀, same locality as holotype, 20–24.i.1957 (BMNH); slide-mounted.

COMMENTS. This species is differentiated from others in the genus by the shape, pattern and venation of the forewing, and the structure of the antenna and the male proctiger. It is probably the sister-species of *H. chlamydodora*.

Oriental Region

Homotoma altissimae (Yang & Li)

Caenohomotoma altissimae Yang & Li, 1984*a*: 206, 217. Holotype ♂, CHINA: on *Ficus altissima* (BAUIC) [not examined].

Homotoma altissimae (Yang & Li) Hodkinson, 1986: 312.

HOSTPLANT. *Ficus altissima*; ((*Urostigma*) sect. *Conosycea*).

Recorded distribution. China (Yunnan).
No material examined.

Homotoma annesleae (Yang & Li)

Caenohomotoma annesleae Yang & Li, 1984*a*: 205, 217. Holotype ♂, CHINA: on *Anneslea fragrans* (BAUIC) [not examined].
Homotoma annesleae (Yang & Li) Hodkinson, 1986: 313.

Hostplant. Two adults recorded from *Anneslea fragrans* (Theaceae). These specimens were probably vagrants.

Recorded distribution. China (Yunnan).
No material examined.

Homotoma bambusae (Yang & Li)

Caenohomotoma (*Heterhomotoma*) *bambusae* Yang & Li, 1981: 82, 85, 86; 1984*a*: 210. Holotype ♂, CHINA: on *Bambusa* sp. (BAUIC) [not examined].
Caenohomotoma bambusae Yang & Li, 1984*a*: 216, 218.
Homotoma bambusae (Yang & Li) Hodkinson, 1986: 313.

Hostplant. Two adults collected from *Bambusa* sp. (Graminae). These specimens were probably vagrants.

Recorded distribution. China (Hainan).
No material examined.

Homotoma benjaminae (Yang & Li)

Caenohomotoma benjaminae Yang & Li, 1984*a*: 211, 217. Holotype ♂, CHINA: on *Ficus benjamina* (BAUIC) [not examined].
Homotoma benjaminae (Yang & Li) Hodkinson, 1986: 313.

Hostplant. Three adults collected from *Ficus benjamina*; ((*Urostigma*) sect. *Conosycea*).

Recorded distribution. China (Lincang Prov.).
No material examined.

Homotoma boheae Yu

(Fig. 71)

Homotoma boheae Yu, 1957: 45; Miyatake, 1975: 20; Hodkinson, 1986: 313. Holotype ♂, CHINA (?BPBM) [not examined].
Caenohomotoma (*Caenohomotoma*) *boheae* (Yu) Yang & Li, 1981: 78, 85; 1984*a*: 218.

Hostplant. Unknown.

Recorded distribution. China (Fukien).

Material examined
Malaya, 1 ♂, 1 ♀ (BMNH).

Homotoma chuanana (Yang & Li)

Caenohomotoma (*Psausia*) *chuanana* Yang & Li, 1981: 81, 86. Holotype ♀, CHINA (BAUIC) [not examined].
Caenohomotoma chuanana Yang & Li; Yang & Li, 1984*a*: 216, 218.
Homotoma chuanana (Yang & Li) Hodkinson, 1986: 313.

Hostplant. Unknown.

Recorded distribution. China (Sichuan). No material examined.

Homotoma distincta Crawford

Homotoma distincta Crawford, 1912: 433; 1919: 162; Ramakrishna Ayyar, 1924: 622; Boselli, 1929: 219; Miyatake, 1975: 21; Hodkinson, 1986: 313. Holotype ♀, INDIA (BMNH) [examined].
Psausia distincta (Crawford) Enderlein, 1921: 120; Heslop-Harrison, 1949: 379; Mathur, 1975: 156; Loginova, 1982: 39; Yang & Li, 1984*a*: 202, 217.
Caenohomotoma (*Harrisonella*) *distincta* (Crawford) Yang & Li, 1981: 78, 85.

Hostplant. *Ficus religiosa* (Heslop-Harrison, 1949); ((*Urostigma*) sect. *Urostigma*).

Recorded distribution. India (Bihar, U. P.).

Material examined
India (Bihar, U. P.): holotype ♀, 1 ♂ (BMNH).

Homotoma galbvittata (Yang & Li)

Caenohomotoma galbvittata Yang & Li, 1984*a*: 203, 217. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].
Homotoma galbvittata (Yang & Li) Hodkinson, 1986: 313.

Hostplant. *Ficus* sp..

Recorded distribution. China (Yunnan).
No material examined.

Homotoma indica (Mathur)

Psausia indica Mathur, 1975: 158. Holotype ♂, INDIA: on '*Ficus infectoria*' (FRI) [not examined].

Caenohomotoma indica (Mathur) Yang & Li, 1984*a*: 218.
Homotoma indica (Mathur) Hodkinson, 1986: 313.

HOSTPLANTS. There is some confusion in the original description concerning the identity of the host. Under hostplant data Mathur states '*Ficus macrocarpa* (=*F. retusa*) and *F. lucescens* (=*F. infectoria*)'. Under type data only *Ficus infectoria* is given, and under biological notes Mathur states 'Both adults and nymphs are commonly found on young shoots of *F. macrocarpa* at . . . Dehra Dun'. *Ficus macrocarpa* (=*F. retusa*) is probably a misspelling of *F. micocarpa* (see Corner, 1965: 22), although it may refer to *F. laevis* var. *macrocarpa* (Corner, 1965: 53). *F. infectoria* may refer to either *F. tsjahela* or *F. virens* (Corner, 1965: 7 and 9 respectively).

RECORDED DISTRIBUTION. India (UP).
No material examined.

Homotoma lahui (Yang & Li)

Caenohomotoma lahui Yang & Li, 1984*a*: 212, 217. Holotype ♀, CHINA (BAUIC) [not examined].
Homotoma lahui (Yang & Li) Hodkinson, 1986: 313.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Homotoma maculata Yang

Psausia maculata Yang, 1984: 173. Holotype ♂, TAIWAN: on *Ficus beechyana* (NCHU) [not examined].
Homotoma maculata (Yang) Hodkinson, 1986: 313.

HOSTPLANT. *Ficus erecta* var. *beechyana*; ((*Ficus*) sect. *Ficus*).

RECORDED DISTRIBUTION. Taiwan.
No material examined.

Homotoma mangiferae (Yang & Li)

Caenohomotoma mangiferae Yang & Li, 1984*a*: 209, 217. Holotype ♂, CHINA: on *Mangifera indica* (BAUIC) [not examined].
Homotoma mangiferae (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. The single known adult, recorded from *Mangifera indica*, was probably a vagrant.

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Homotoma pyriformiscola (Yang & Li)

Caenohomotoma pyriformiscola Yang & Li, 1984*a*: 207, 217. Holotype ♂, CHINA: on *Ficus pyriformis* (BAUIC) [not examined].
Homotoma pyriformiscola (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. *Ficus pyriformis*; ((*Ficus*) sect. *Ficus*).

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Homotoma radiata Kuwayama

(Fig. 72)

Homotoma radiatum Kuwayama, 1908: 181; Crawford, 1911: 491; 1912: 433; 1915: 262; 1919: 162; Aulmann, 1913: 36; Kuwayama, 1931: 124; Sasaki, 1954: 31; Klimaszewski, 1973: 231; Hill et al., 1982: 174. Syntypes, ♂ and ♀, TAIWAN (EIHU) [not examined].
Psausia radiata (Kuwayama) Enderlein, 1914: 232; Heslop-Harrison, 1949: 375; Yang, 1984: 169; Fang & Yang, 1987: 147.
Psausia (*Homotoma*) *radiata* (Kuwayama) Kuwayama, 1922: 368.
Homotoma radiata Kuwayama; Boselli, 1929: 219; Miyatake, 1965*a*: 173; 1975: 20; 1981: 56; Yu, 1957: 44; Hodkinson, 1983: 349; 1986: 313.
Caenohomotoma radiata (Kuwayama) Yang & Li, 1981: 79; 1984*a*: 216, 218.

HOSTPLANTS. Recorded from *Ficus erecta, F. caulocarpa, F. superba* var. *japonica* and *Ficus* sp.

RECORDED DISTRIBUTION. Nepal, Taiwan, Japan and Hong Kong.

MATERIAL EXAMINED.
Hong Kong: adults on *Ficus superba* var. *japonica* (BMNH).

Homotoma ruiliana (Yang & Li)

Caenohomotoma ruiliana Yang & Li, 1984*a*: 214, 217. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].
Homotoma ruiliana (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. A single male collected from *Ficus* sp.

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Homotoma shuana (Yang & Li)

Caenohomotoma (*Heterohomotoma*) *shuana* Yang & Li, 1981: 79, 85, 86; 1984*a*: 210. Holotype ♂, CHINA (BAUIC) [not examined].
Caenohomotoma shuana Yang & Li; Yang & Li, 1984*a*: 216, 218.
Homotoma shuana (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. China (Sichuan).
No material examined.

Homotoma spiraea (Yang & Li)

Caenohomotoma (*Caenohomotoma*) *spiraea* Yang & Li, 1981: 79, 85, 86; 1984*a*: 216, 218. Holotype ♂, CHINA: on '*Spirae*' sp. (BAUIC) [not examined].
Homotoma spiraca (Yang & Li) Hodkinson, 1986: 314. [Misspelling.]

HOSTPLANT. Described from 12 adults collected on '*Spirae*' sp. [? *Spiraea* sp.].

RECORDED DISTRIBUTION. China (Zhejiang).
No material examined.

Homotoma unifasciata Yu

Homotoma unifasciata Yu, 1957: 45; Miyatake, 1975: 21; Hodkinson, 1986: 314. Holotype ♂, CHINA (? BPBM) [not examined].
Caenohomotoma (*Caenohomotoma*) *unifasciata* (Yu) Yang & Li, 1981: 78, 85.
Caenohomotoma unifasciata (Yu); Yang & Li, 1984*a*: 216, 218.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. China (Fukien); Japan.
No material examined.

Homotoma wulinensis (Yang)

Psausia wulinensis Yang, 1984: 170. Holotype ♂, TAIWAN: on *Ficus sarmentosa* (NCHU) [not examined].
Homotoma wulinensis (Yang) Hodkinson, 1986: 314.

HOSTPLANT. *Ficus sarmentosa*; ((*Ficus*) sect. *Rhizocladus*).

RECORDED DISTRIBUTION. Taiwan.
No material examined.

Homotoma xishuangana (Yang & Li)

Caenohomotoma xishuangana Yang & Li, 1984*a*: 213, 217. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].
Homotoma xishuangana (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. Described from four adults collected on *Ficus* sp.

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Homotoma yunnanica (Yang & Li)

Caenohomotoma yunnanica Yang & Li, 1984*a*: 210, 217. Holotype ♂, CHINA: on *Ficus* sp. (BAUIC) [not examined].
Homotoma yunnanica (Yang & Li) Hodkinson, 1986: 314.

HOSTPLANT. Described from nine adults collected on *Ficus* sp.

RECORDED DISTRIBUTION. China (Yunnan).
No material examined.

Australo-oriental Region

Homotoma bakeri Crawford

Fig. 73)

Homotoma bakeri Crawford, 1915: 263; 1919: 162; Boselli, 1929: 219; Heslop-Harrison, 1949: 376; Miyatake, 1975: 20; Braza & Calilung, 1981: 353; Hodkinson, 1983: 349. Holotype ♀, PHILIPPINES (USNM) [examined].
Metapsausia bakeri (Crawford) Enderlein, 1921: 120.
Caenohomotoma (*Metapsausia*) *bakeri* (Crawford) Yang & Li, 1981: 78, 85.
Caenohomotoma bakeri (Crawford) Yang & Li, 1984*a*: 218.

HOSTPLANT. *Ficus benjamina* var. *nuda* (=*F. comosa*; recorded as *F. carnosa* by Braza & Calilung); ((*Urostigma*) sect. *Conosycea*).

RECORDED DISTRIBUTION. Philippines (Luzon and Mindanao); West Malaysia (Penang).

MATERIAL EXAMINED
Philippines: ♂, ♀ and larvae, Mt Makiling. **West Malaysia**: 1 ♀, Pahang (BMNH).

Homotoma bilineata Crawford

Homotoma bilineata Crawford, 1917: 164; 1919: 162; Boselli, 1929: 219; Miyatake, 1975: 20.

Holotype ♂, PHILIPPINES (USNM) [examined].
Metapsausia bilineata (Crawford) Enderlein, 1921: 120.
Homotoma biliniata Crawford; Heslop-Harrison, 1949: 376. [Misspelling.]
Caenohomotoma (*Metapsausia*) *bilineata* (Crawford) Yang & Li, 1981: 78, 85.
Caenohomotoma bilineata (Crawford) Yang & Li, 1984a: 218.

HOSTPLANT. *Ficus* sp. (1 ♀, BMNH).

RECORDED DISTRIBUTION. Philippines (Luzon); Thailand.

MATERIAL EXAMINED
Philippines: 1 ♂ (holotype), Luzon (USNM); 1 ♀, Palawan (BMNH).

COMMENTS. Hodkinson's (1983, 1986) records of *H. bilineata* from Sarawak refer to a closely related species, of which there are further specimens in BMNH from Sulawesi and Seram.

Homotoma gressitti Miyatake

Homotoma gressitti Miyatake, 1975: 17; Hodkinson, 1983: 349. Holotype ♀, PAPUA NEW GUINEA (BPBM) [not examined].
Caenohomotoma (*Austrohomotoma*) *gressitti* (Miyatake) Yang & Li, 1981: 78, 85.
Caenohomotoma gressitti (Miyatake) Yang & Li, 1984*a*: 218.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. Papua New Guinea.

MATERIAL EXAMINED
A series of adults from **Papua New Guinea** (Mondo), in BMNH, differ from the original description slightly in forewing venation and pattern.

Homotoma pacifica Crawford

(Fig. 64)

Homotoma pacifica Crawford, 1915: 262; 1919: 162; Boselli, 1929: 219; Heslop-Harrison, 1949: 378; Miyatake, 1975: 21; Yang & Li, 1981: 78, 85; Hodkinson, 1983: 349. Holotype ♂, PHILIPPINES (USNM) [examined].
Labobrachia pacifica (Crawford) Enderlein, 1921: 19; Heslop-Harrison, 1949: 376; Yang & Li, 1984*a*: 201, 217.

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. Philippines (Luzon).

MATERIAL EXAMINED
Philippines: 1 ♂ (holotype) (USNM). **Indonesia**: 1 ♀, Sulawesi Utara (BMNH).

COMMENTS. A single ♀ of a closely related but undescribed species (Fig. 65) is in BMNH, also from Sulawesi Utara.

SYNOZINI Bekker-Migdisova

Synozini Bekker-Migdisova, 1973: 102. Type genus: *Synoza* Enderlein.
Synoziini White & Hodkinson, 1985: 162. [Misspelling.]

DIAGNOSIS. In forewing $M+Cu$ stem absent, M stem completely fused along its basal two-thirds with Rs, radular area absent from cell m_2; hind tibia with an almost complete ring of apical spurs; ♂ proctiger unipartite; basal segment of aedeagus not expanded, apical segment with a pair of subapical spiniform processes ventrally.

A single, New World genus, *Synoza*, is included here. It comprises three species from Central and South America and recorded hostplants are *Ficus* spp.

SYNOZA Enderlein

Synoza Enderlein, 1918: 479; Laing, 1923: 697; Ferris, 1928: 109; Caldwell, 1941: 419; Tuthill, 1950: 58: Bekker-Migdisova, 1973: 102; Hodkinson & White, 1981: 509; White & Hodkinson, 1985: 272; Brown & Hodkinson, 1988: 179. Type species: *Synoza cornutiventris* Enderlein, by original designation and monotypy.

DESCRIPTION. Medium-sized psyllids, up to 5.0 mm. Integument of head and thorax sparsely covered with long setae. Head (Figs 25, 26), from above, about as wide as mesoscutum; vertex concave on either side of median suture, anterior and lateral margins rounded, occipital margin angular medially but rounded laterally, anterior margin deeply incised by median suture, lateral ocelli on raised tubercles, anterolateral tubercles absent; antennal bases enlarged, giving head a cleft appearance, flagellum about 4 times longer than head width, flagellomeres cylindrical, a single subapical rhinarium present on flagellomeres 2, 4, 6 and 7; genae not swollen ventrally; ultimate rostral segment short, less than 2.5 times longer than wide.

Thorax, in profile, strongly arched, pronotum very narrowly visible from above and descending sharply behind occiput. Forewing (Fig. 74) obovate, with rounded apex, about 2.5 times longer than wide, veins bearing long setae, $C+Sc$ not thickened, costal break indicated by weakening of chitin in break area, basal two-thirds of M stem completely fused with Rs, apex of M_{1+2} reaching wing margin anterior to wing apex, $M+Cu$ absent, m_1 cell value about 1.0, cu_1 cell value about 1.0, radular areas sharply defined but absent from cell m_2, apex of claval suture distant from apex of Cu_{1b}; basal spine of hind tibia absent, apical spur ring almost complete; hind basitarsus with 2 apical spurs.

♂ proctiger unipartite, with well-developed lateral lobes that do not bear inner apical lobes; basal segment of aedeagus not expanded in apical half, apical lobes of aedeagus with a pair of spiniform lobes ventrally (Fig. 105).

♀ terminalia conical or elongate conical; circum-anal pore ring simple.

Larva. Body longer than wide; antenna long, filiform, not subdivided; wing pads small, humeral lobes not developed; body surface membraneous with thoracic sclerites not defined, setae mainly simple but abdominal segments bearing small groups of 1–3 pointed sectasetae submarginally on dorsal surface, dorsal caudal plate (Fig. 113) small, bearing groups of pointed sectasetae; anus ventral (Fig. 113), with a large, medially constricted circum-anal pore ring; tarsal arolium triangular, not petiolate.

COMMENTS. Laing (1923) and Ferris (1928) placed *Synoza* in the Carsidaridae sensu Crawford (1919); Bekker-Migdisova (1973: fig. 2) considered the genus to be the sister-group of the rest of the homotomids, and White & Hodkinson (1985) regarded it as the sister-group of *Homotoma*.

The three included species are discussed and differentiated by Brown & Hodkinson (1988).

Synoza cornutiventris Enderlein

(Figs 25, 26, 74, 105)

Synoza cornutiventris Enderlein, 1918: 480; Laing, 1923: 697; Crawford, 1925*b*: 58; Ferris, 1928: 109; Costa Lima, 1942: 105; Hodkinson & White, 1981: 509; Brown & Hodkinson, 1988: 180. Holotype ♀, PERU (not traced).

HOSTPLANT. *Ficus* sp. (Brown & Hodkinson, 1988).

RECORDED DISTRIBUTION. Colombia, Panama and Peru.

MATERIAL EXAMINED

Colombia: 1 ♂, 1 ♀, on *Ficus* sp.; **Panama**: 3 ♀ (BMNH).

Synoza floccosa Ferris

(Fig. 113)

Synoza floccosa Ferris, 1928: 109; Klyver, 1930: 175 (as a synonym of *S. pulchra* Laing); Tuthill, 1950: 59; Hodkinson & White, 1981: 509; Brown & Hodkinson, 1988: 180. Syntypes ♂, ♀, larvae, MEXICO: on *Ficus* sp. (SUNHM) [examined].

Synoza pulchra Laing; Caldwell, 1941: 421, in part.

HOSTPLANT. *Ficus* sp.

RECORDED DISTRIBUTION. Mexico.

MATERIAL EXAMINED

Mexico: adults and larvae on *Ficus* sp. (syntype series, SUNHM).

Synoza pulchra Laing

Synoza pulchra Laing, 1923: 696; Caldwell, 1941: 421; Tuthill, 1950: 58; Hodkinson & White, 1981: 509; Brown & Hodkinson, 1988: 182. Holotype ♂, MEXICO (BMNH) [examined].

Synoza pulchar Laing; Klyver, 1930: 175. [Misspelling.]

HOSTPLANT. Unknown.

RECORDED DISTRIBUTION. Mexico, Panama.

MATERIAL EXAMINED

Mexico: 1 ♂ (holotype); **Panama**: 1 ♂ (BMNH)

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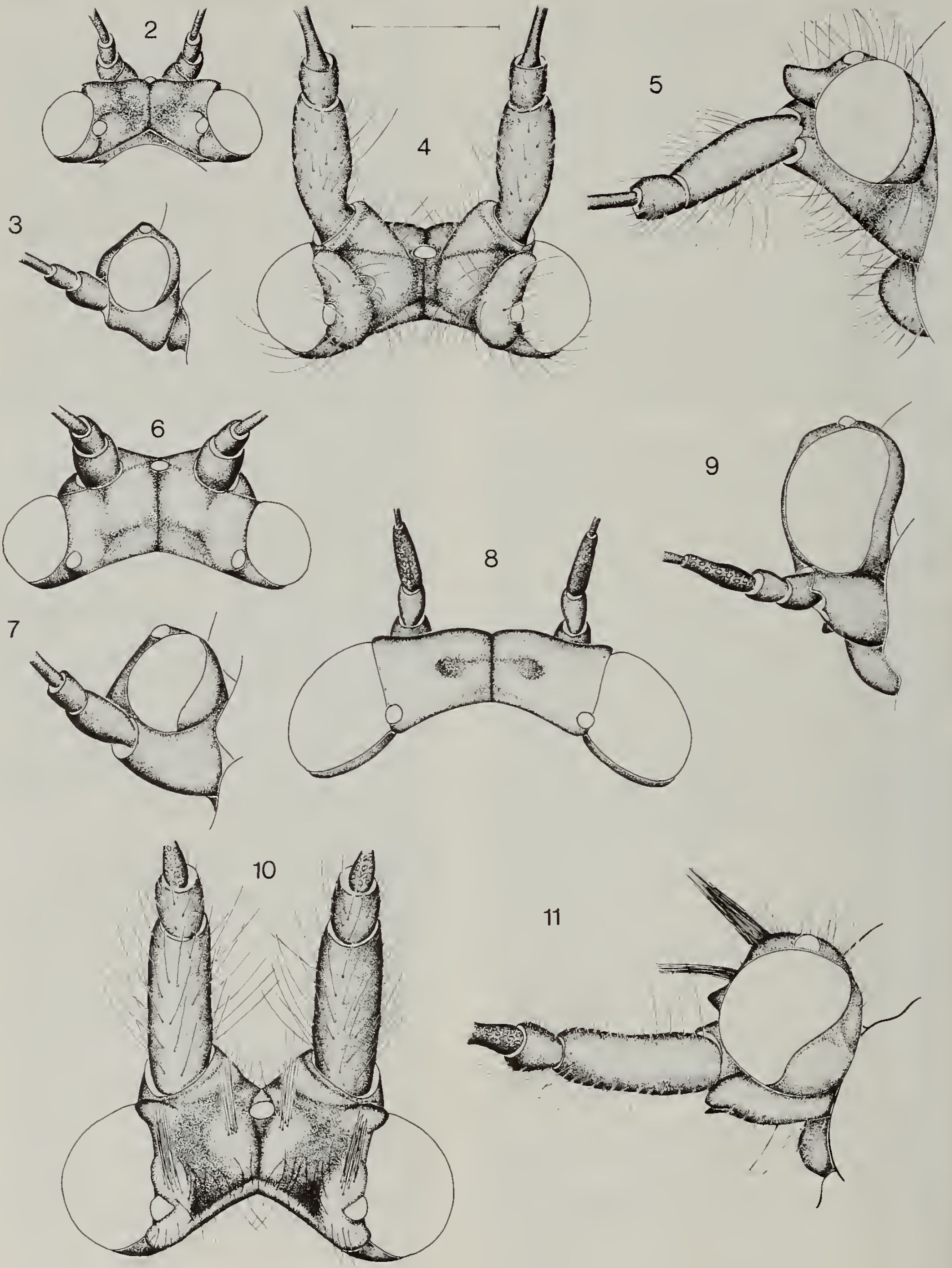

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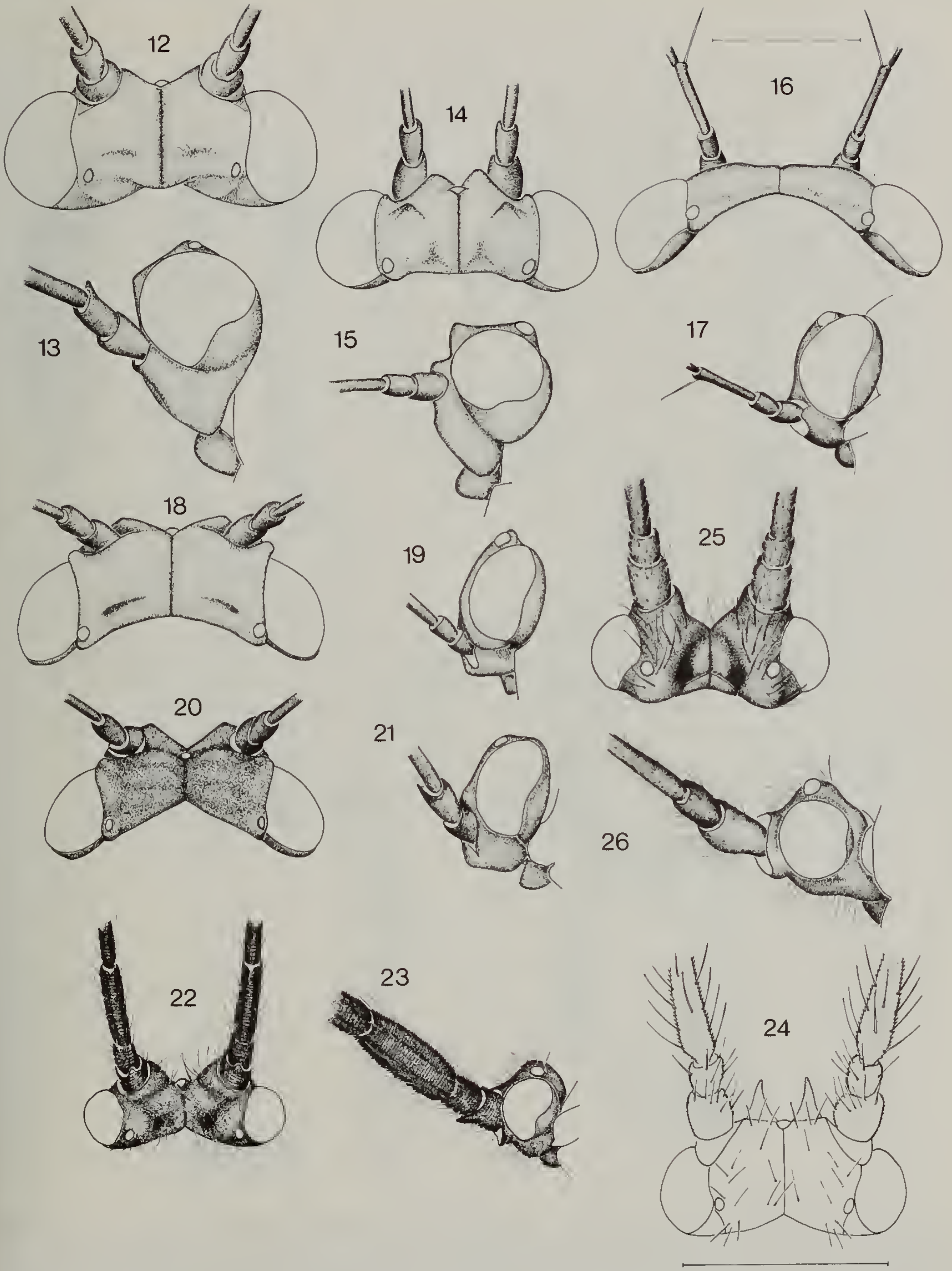

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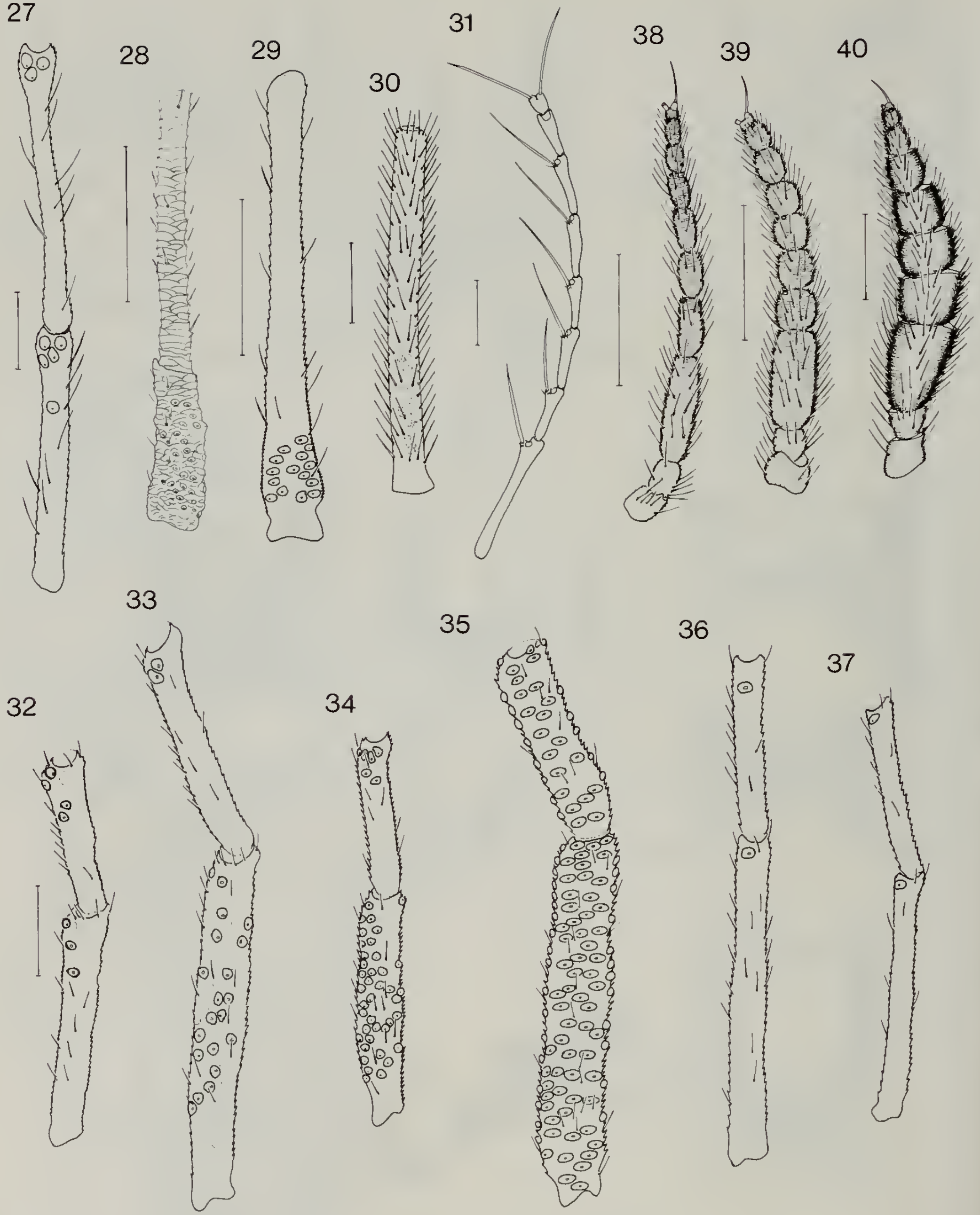

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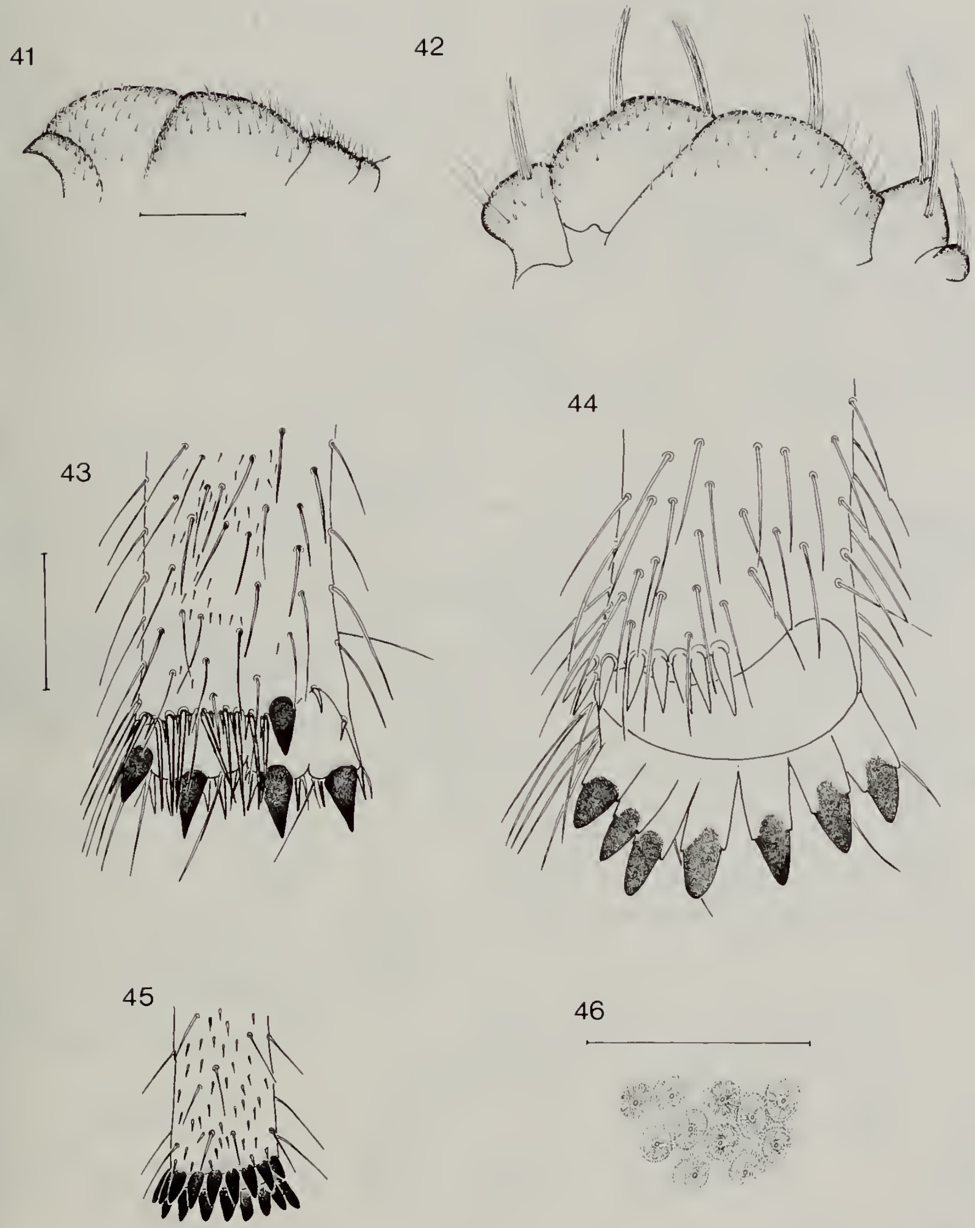

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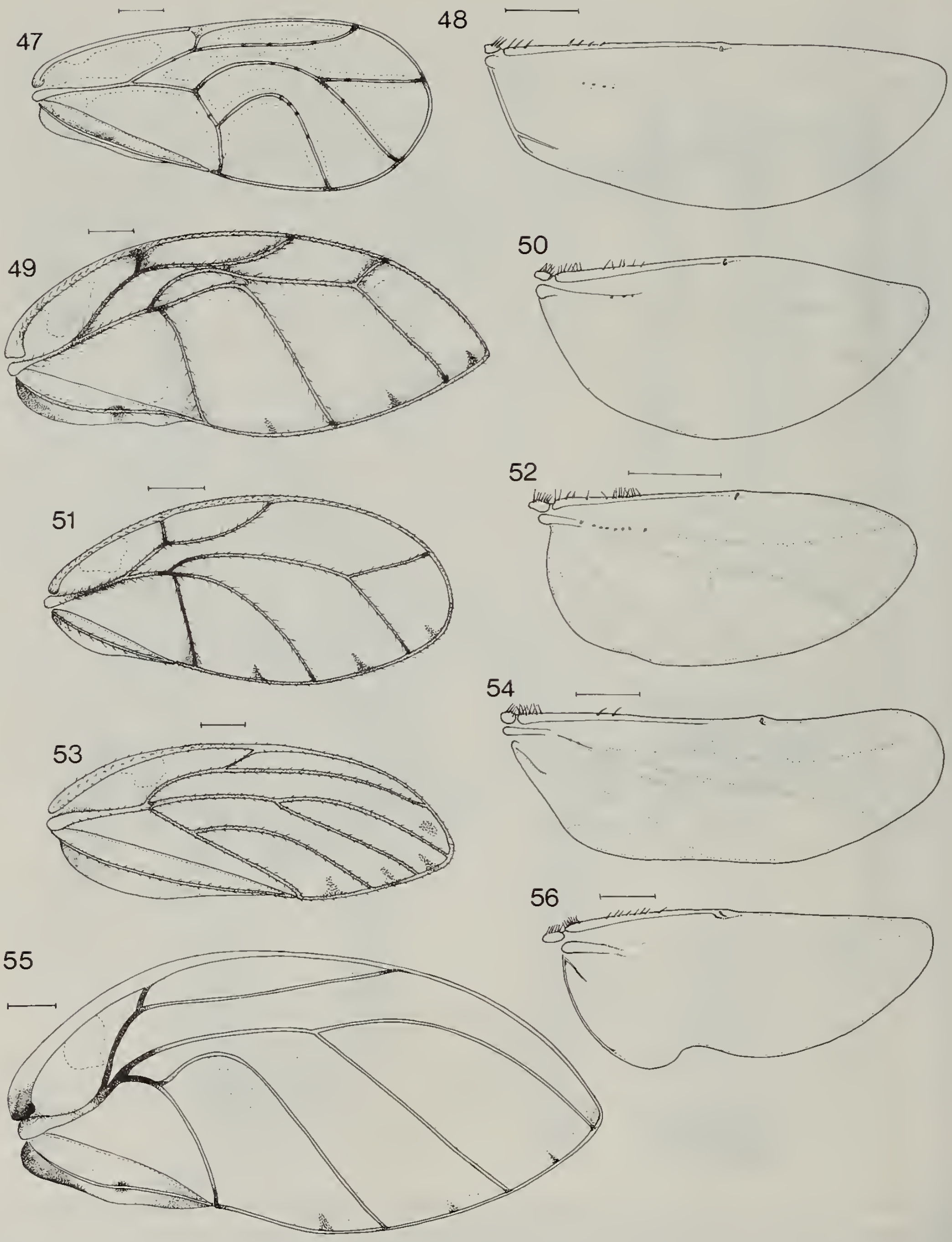

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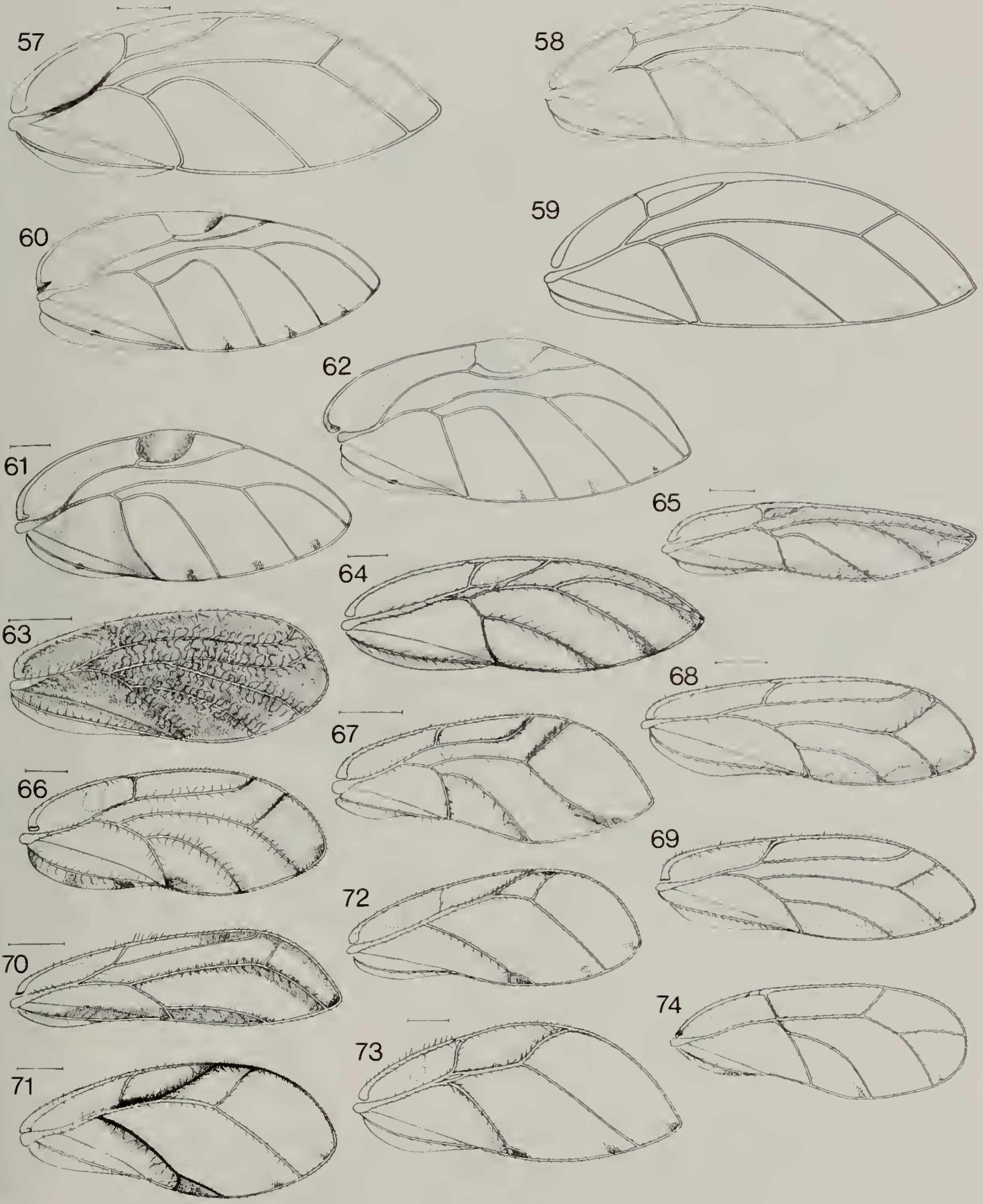

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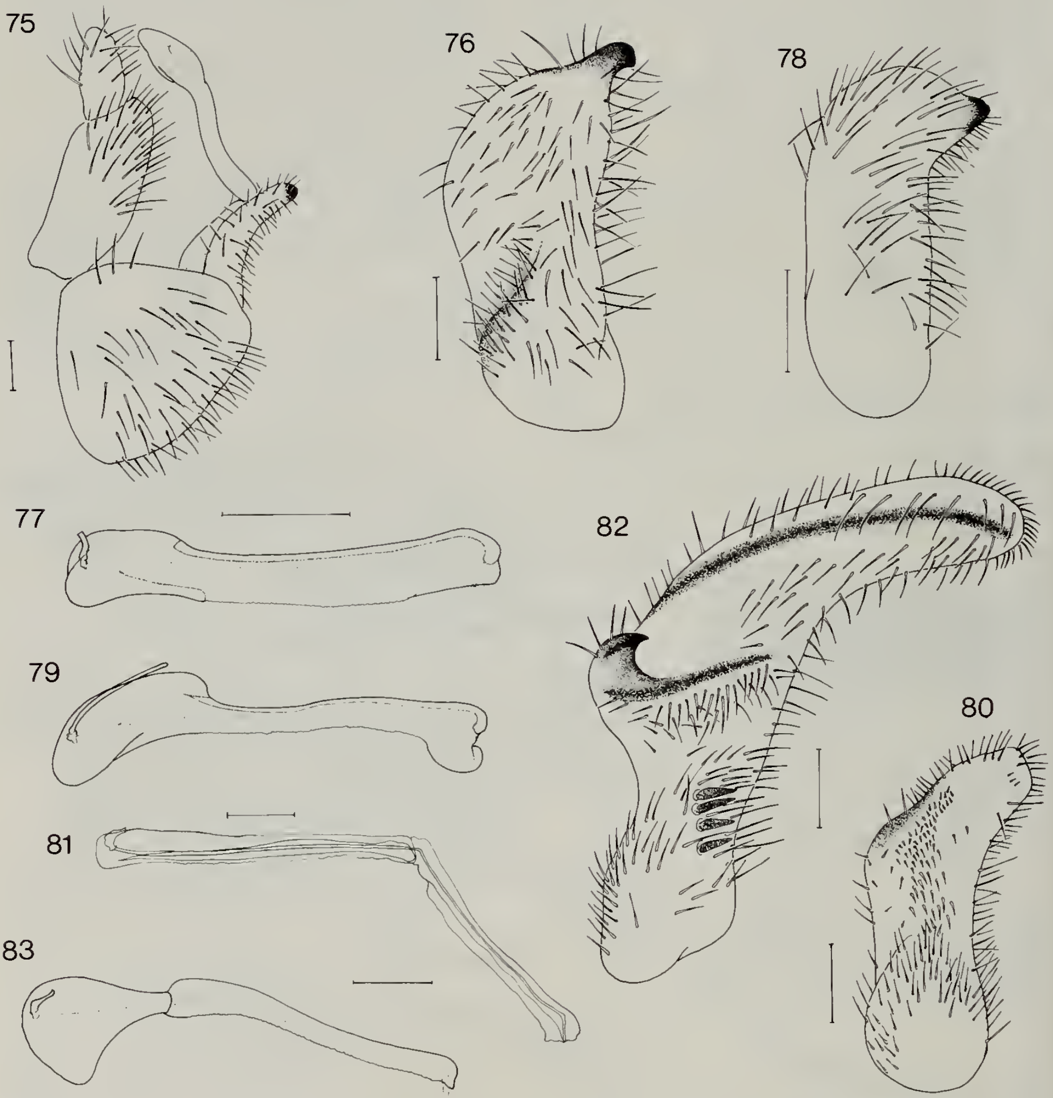

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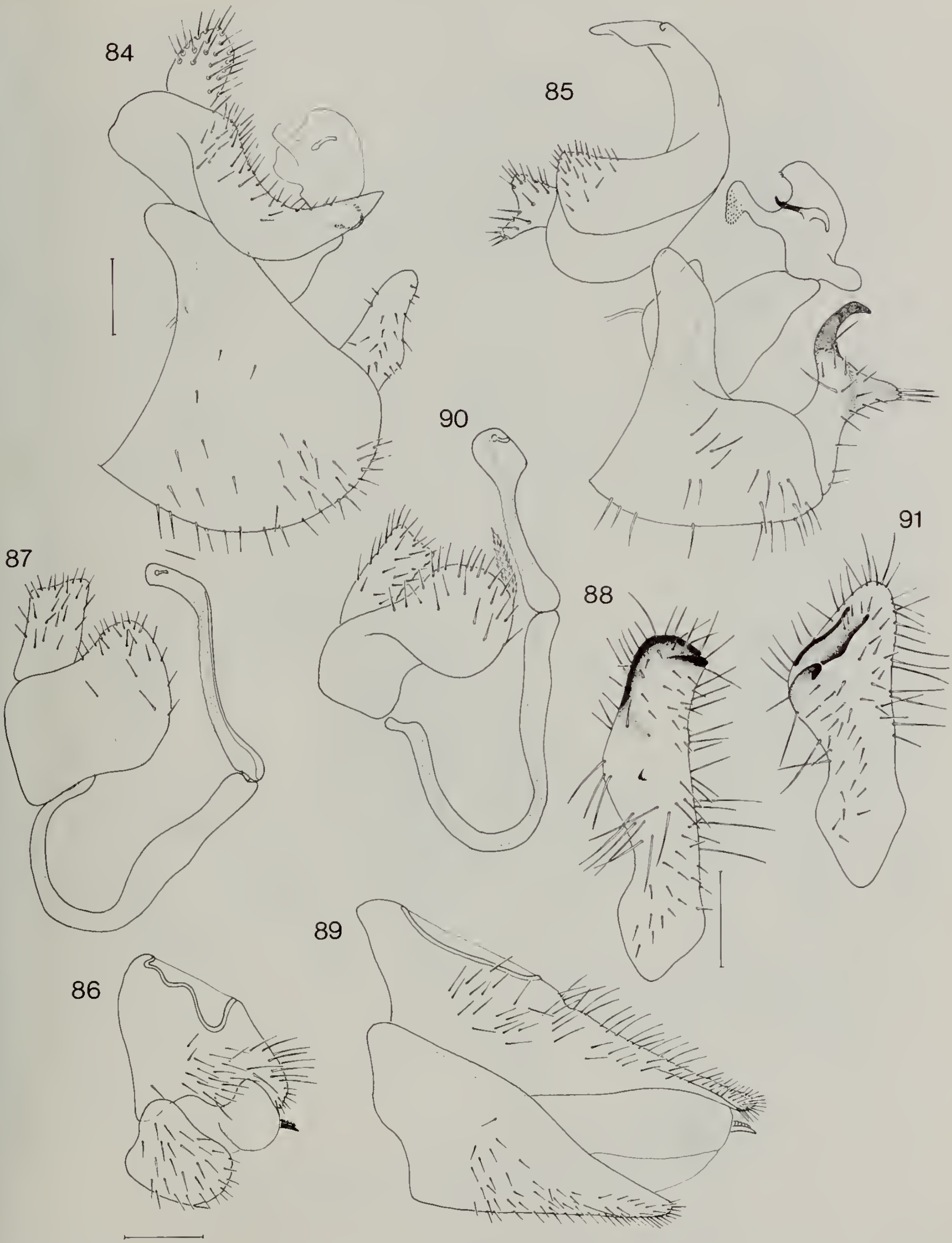

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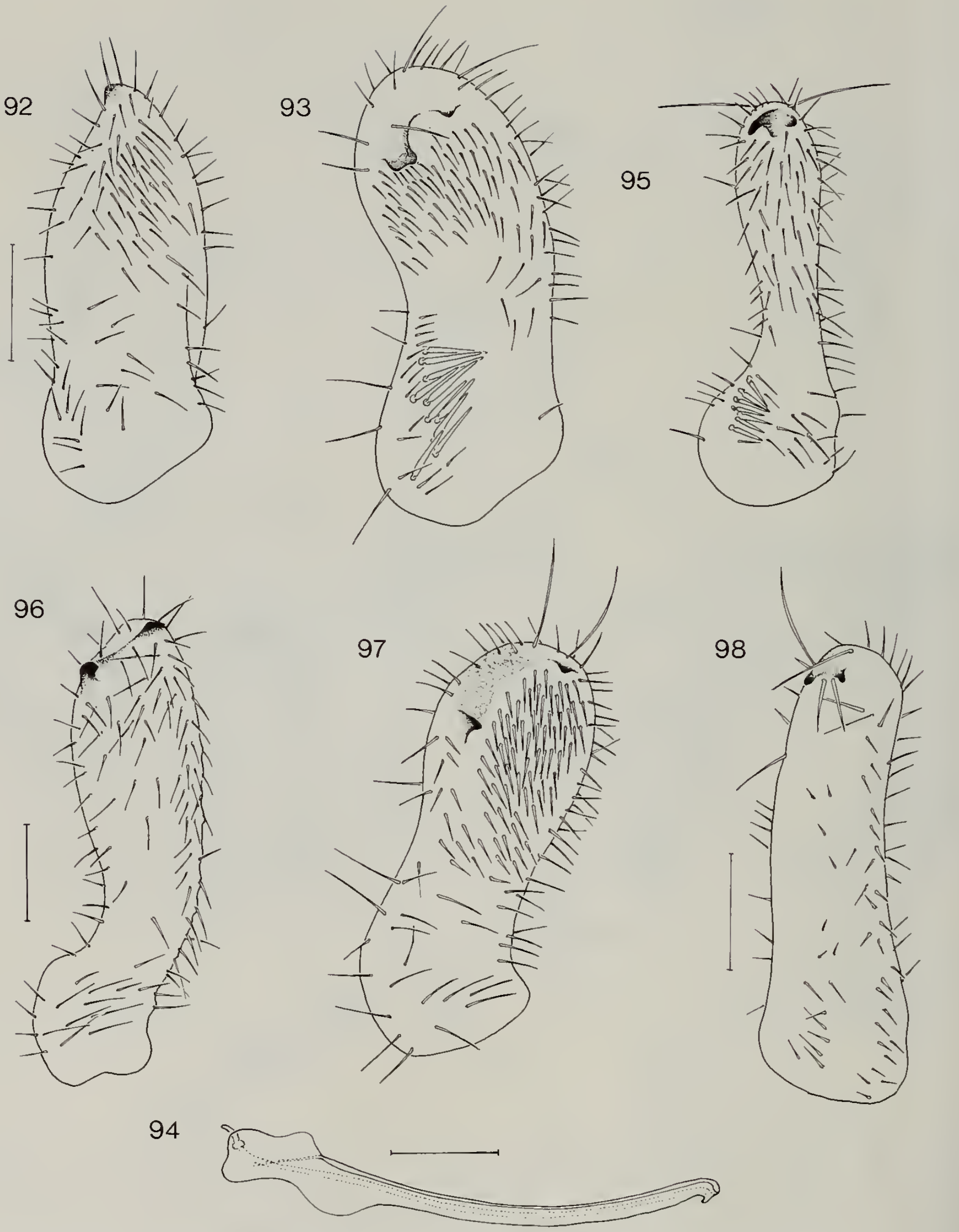

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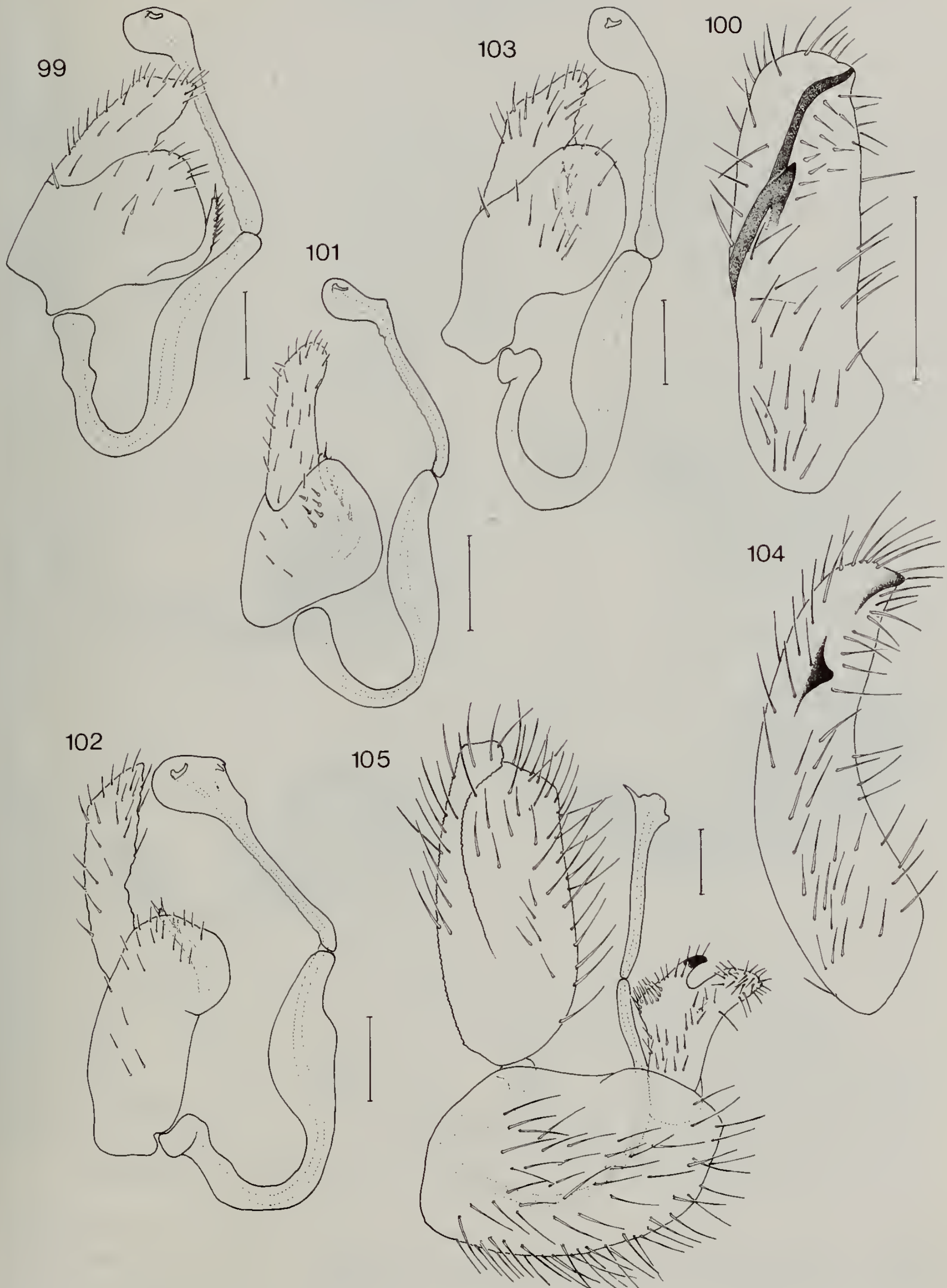

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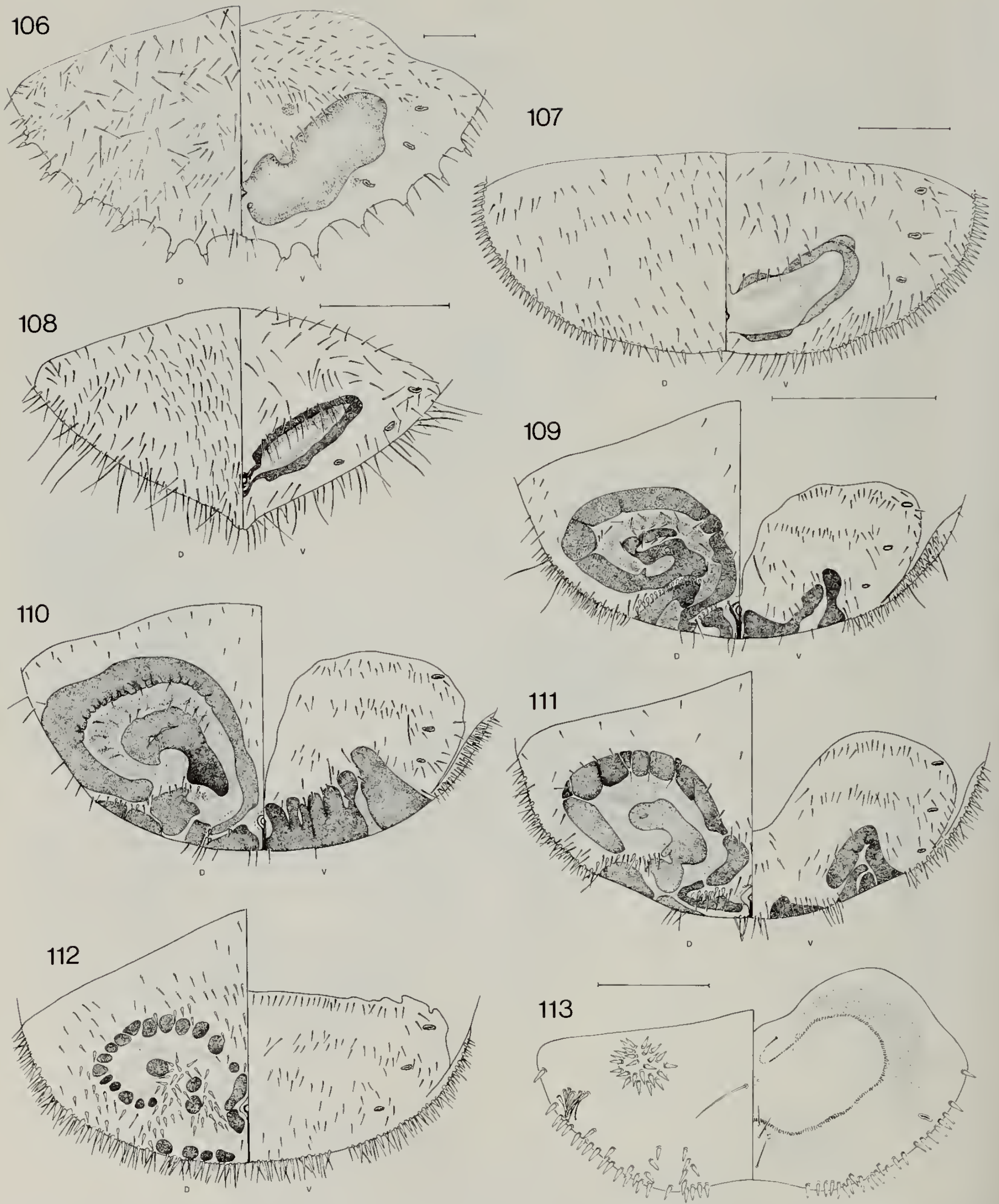

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